TC-KA2ES/KE600S

SERVICE MANUAL

US Model
Canadian Model
TC-KA2ES
AEP Model
UK Model
E Model
Australian Model
TC-KE600S

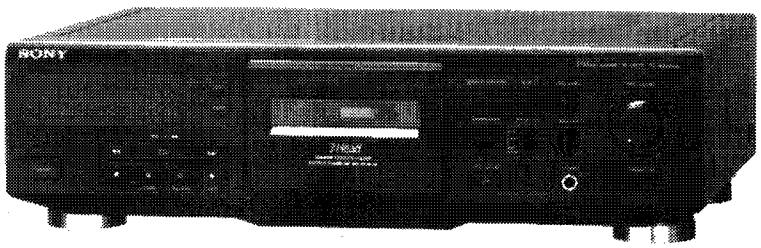


Photo: TC-KE600S

- Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

"DOLBY", the double-D symbol ⧈ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	TC-K661S
Tape Transport Mechanism Type	TCM-200V21

SPECIFICATIONS

System

Recording system
4-track 2-channel stereo

Fast winding time (approx.)
90 sec. (with Sony C-60 cassette)

High-speed fast-winding time (approx.)
45 sec. (with Sony C-60 cassette)

Bias
AC bias

Heads
Erasing head × 1 (S&F head)
Recording head × 1 (SD head)
Playing head × 1 (SD head)

Motors
Capstan motor × 1 (DC servo motor)
Reel motor × 1 (DC motor)
Assist (mechanism drive) motor × 1 (DC motor)

Signal-to-noise ratio (at peak level, weighted, and with Dolby NR off)
Type I tape, Sony Type I (NORMAL): 61 dB
Type II tape, Sony Type II (HIGH): 59 dB
Type IV tape, Sony Type IV (METAL): 57 dB

S/N ratio improvement (approximate values)
With Dolby B NR on: 5 dB at 1 kHz, 10 dB at 5 kHz
With Dolby C NR on: 15 dB at 500 Hz, 20 dB at 1 kHz
With Dolby S NR on: 10 dB at 100 Hz, 24 dB at 1 kHz

Harmonic distortion
0.4% (with Type I tape, Sony Type I (NORMAL): 160n Wb/m 315 Hz, 3rd H.D.)
1.5% (with Type IV tape, Sony Type IV (METAL): 250n Wb/m 315 Hz, 3rd H.D.)

Frequency response (Dolby NR off)
Type I tape, Sony Type I (NORMAL):
15 - 17,000 Hz (±3 dB, IEC)
10 - 19,000 Hz (±6 dB)
Type II tape, Sony Type II (HIGH):
15 - 18,000 Hz (±3 dB, IEC)
10 - 20,000 Hz (±6 dB)
Type IV tape, Sony Type IV (METAL):
15 - 21,000 Hz (±3 dB, IEC)
15 - 16,000 Hz (±3 dB, -4dB recording)
10 - 22,000 Hz (±6 dB)

Wow and flutter
±0.065% W. Peak (IEC)
0.045% W. RMS (NAB)
±0.12% W. Peak (DIN)

– Continued next page –

MICROFILM

STEREO CASSETTE DECK

SONY®

Inputs

Line inputs (phono jacks)
Sensitivity: 0.16 V
Input impedance: 47 kilohms

Outputs

Line outputs (phono jacks)
Rated output level: 0.5 V at a load impedance of 47 kilohms
Load impedance: Over 10 kilohms

Headphones (stereo phone jack)
Output level: 0.25 mW at a load impedance of 32 ohms

General

Power requirements

Where purchased	Power requirements
US, Canadian model	120 V AC, 60 Hz
AEP, UK, German, Singapore model	220-230 V AC, 50/60 Hz
Australian model	240 V AC, 50/60 Hz
E model	120, 220, or 240 V AC, 50/60 Hz adjustable with the voltage selector

Power consumption
21W

Dimensions (approx.) (w/h/d)
430 × 120 × 310 mm (17 × 4 3/4 × 12 1/4 inches) incl. projecting parts and controls

Mass (approx.)
4.6 kg (10 lbs 2 oz)

Supplied accessories
Audio connecting cords (2)

Design and specifications are subject to change without notice.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

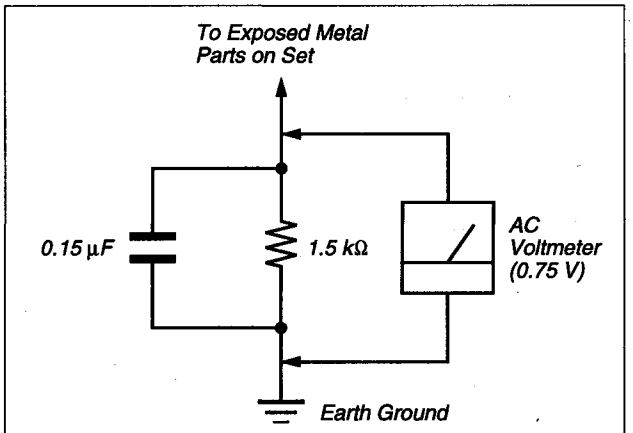


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

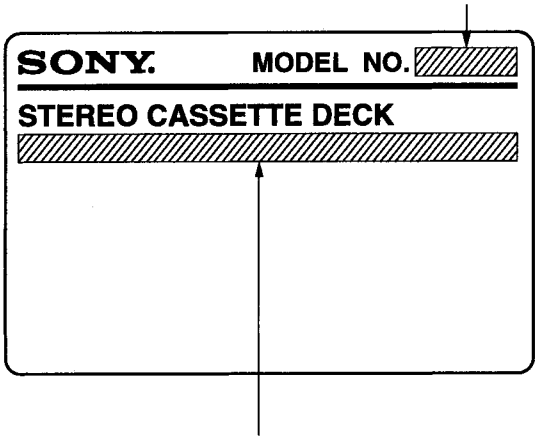
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

MODEL IDENTIFICATION

US, Canadian model: TC-KA2ES
Except US, Canadian model: TC-KE600S



US, Canadian model: AC 120 V 60Hz 21W
AEP, UK, German, Singapore model: AC 220 – 230 V ∼50/60 Hz 21 W
E model: AC 120, 220, 240 V ∼50/60 Hz 21 W
Australian model: AC 240 V ∼50/60 Hz

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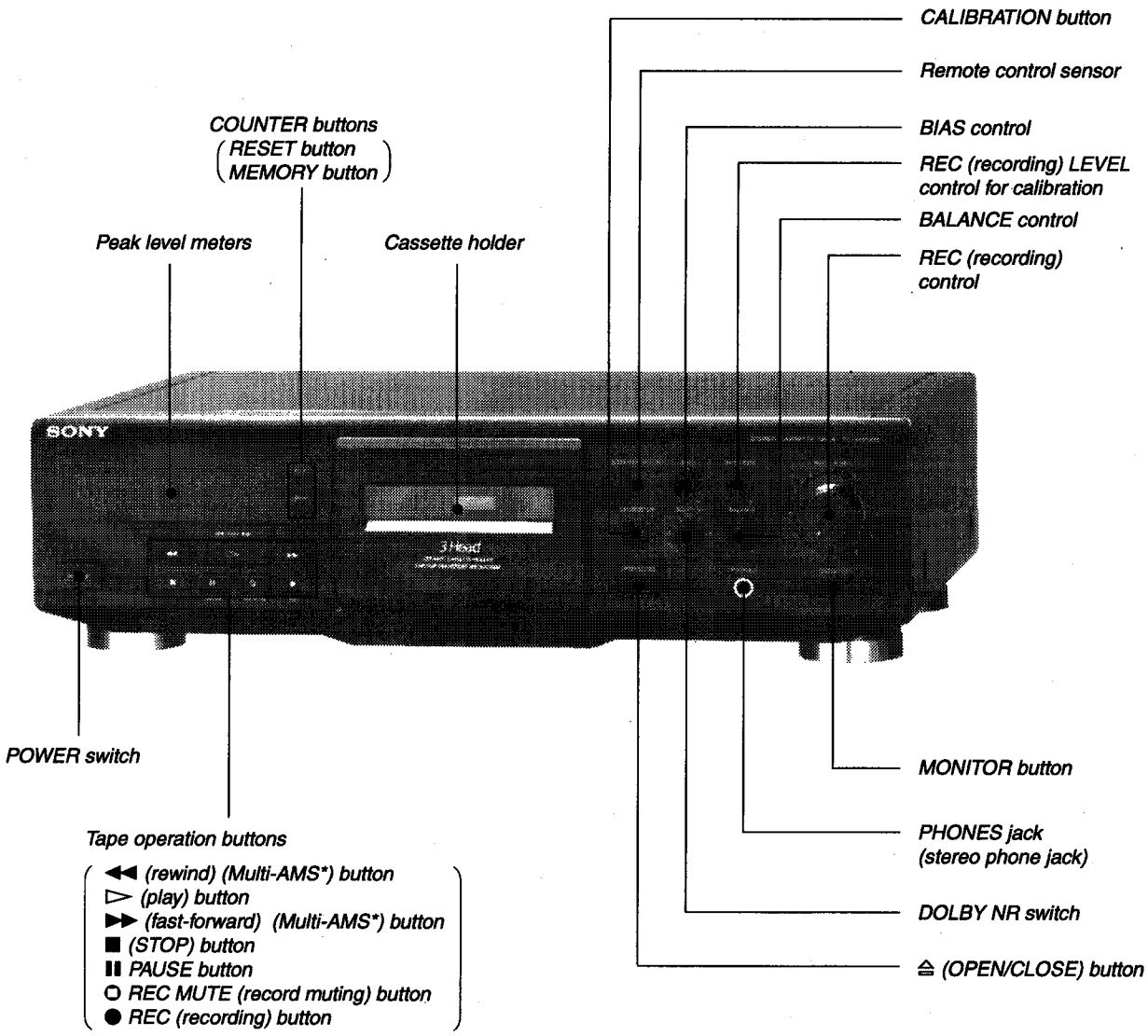
SECTION 1
GENERAL



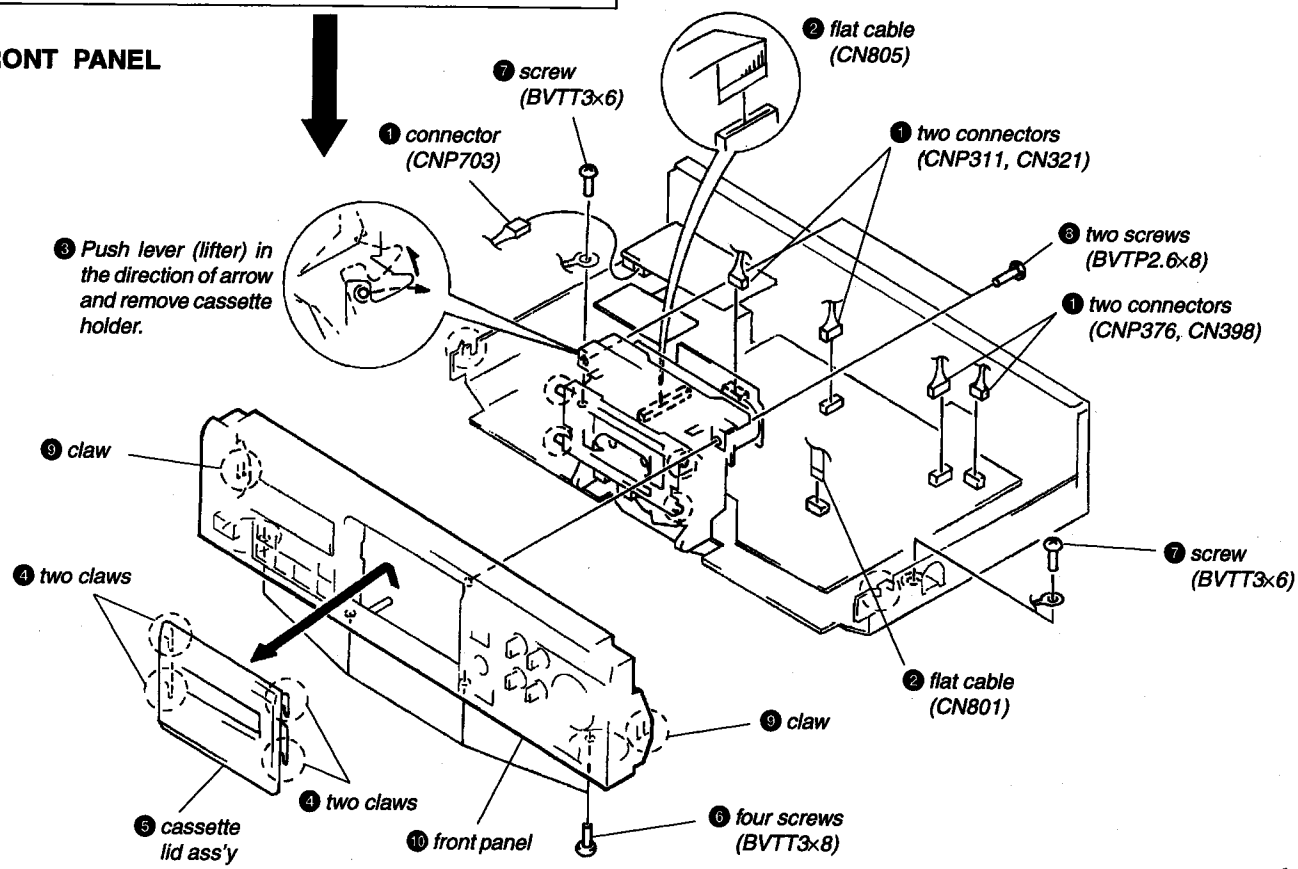
** AMS is an abbreviation for Automatic Music Sensor.*

SECTION 2
DISASSEMBLY

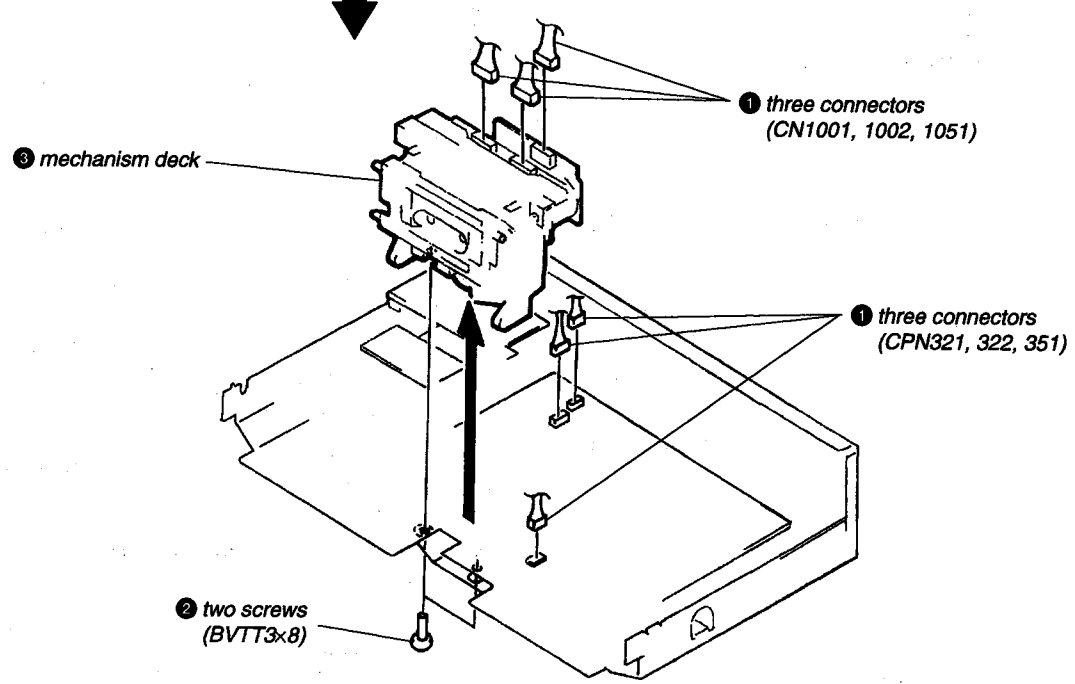
Note: Follow the disassembly procedure in the numerical order given.

CASE
Unscrew the four case attachment five screws (M3×8) and remove the case.

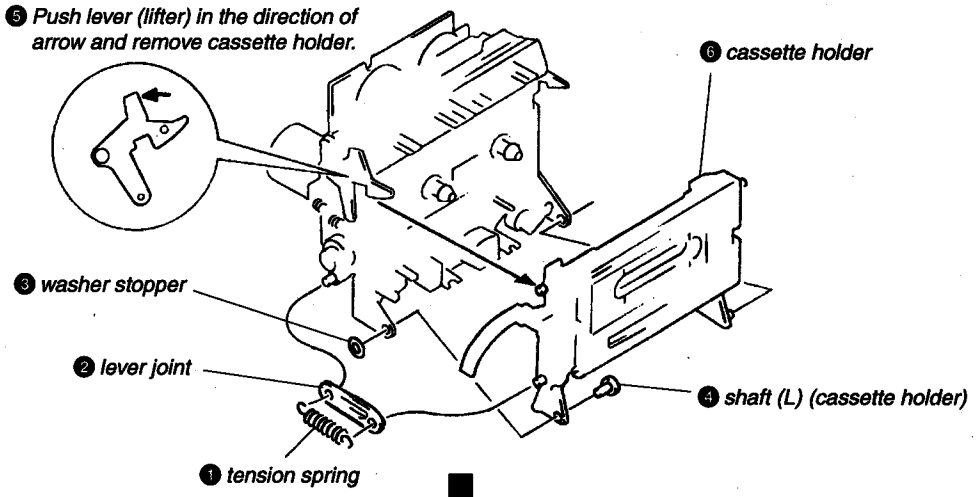
FRONT PANEL


❷ flat cable (CN805)
❼ screw (BVTT3×6)
❶ connector (CNP703)
❶ two connectors (CNP311, CN321)
❸ Push lever (lifter) in the direction of arrow and remove cassette holder.
❽ two screws (BVTP2.6×8)
❶ two connectors (CNP376, CN398)
❾ claw
❼ screw (BVTT3×6)
❹ two claws
❷ flat cable (CN801)
❾ claw
❹ two claws
❺ cassette lid ass'y
❿ front panel
❻ four screws (BVTT3×8)

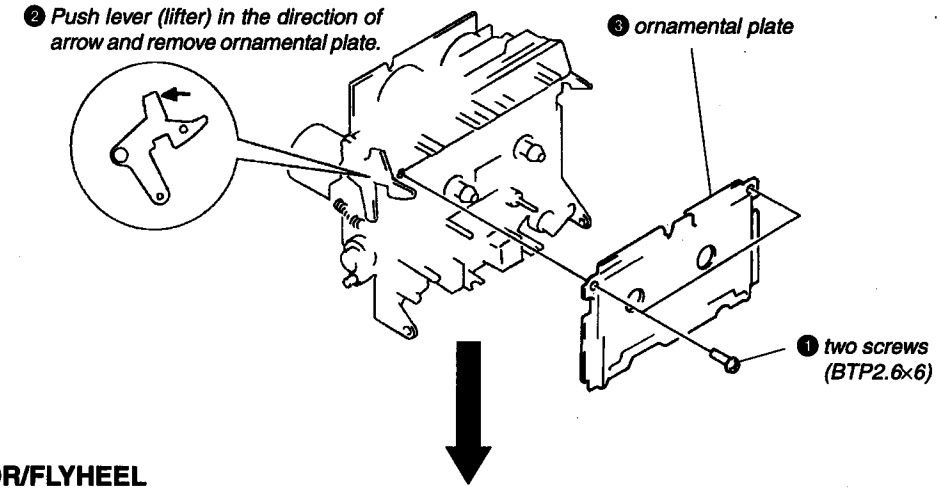
MECHANISM DECK



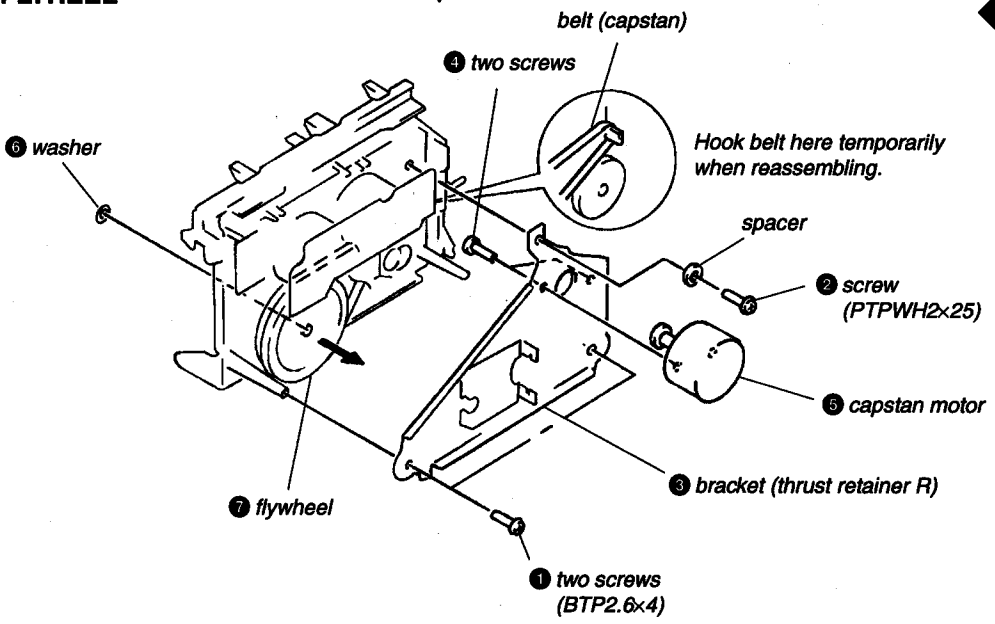
CASSETTE HOLDER


❺ Push lever (lifter) in the direction of arrow and remove cassette holder.
❻ cassette holder
❸ washer stopper
❷ lever joint
❹ shaft (L) (cassette holder)
❶ tension spring

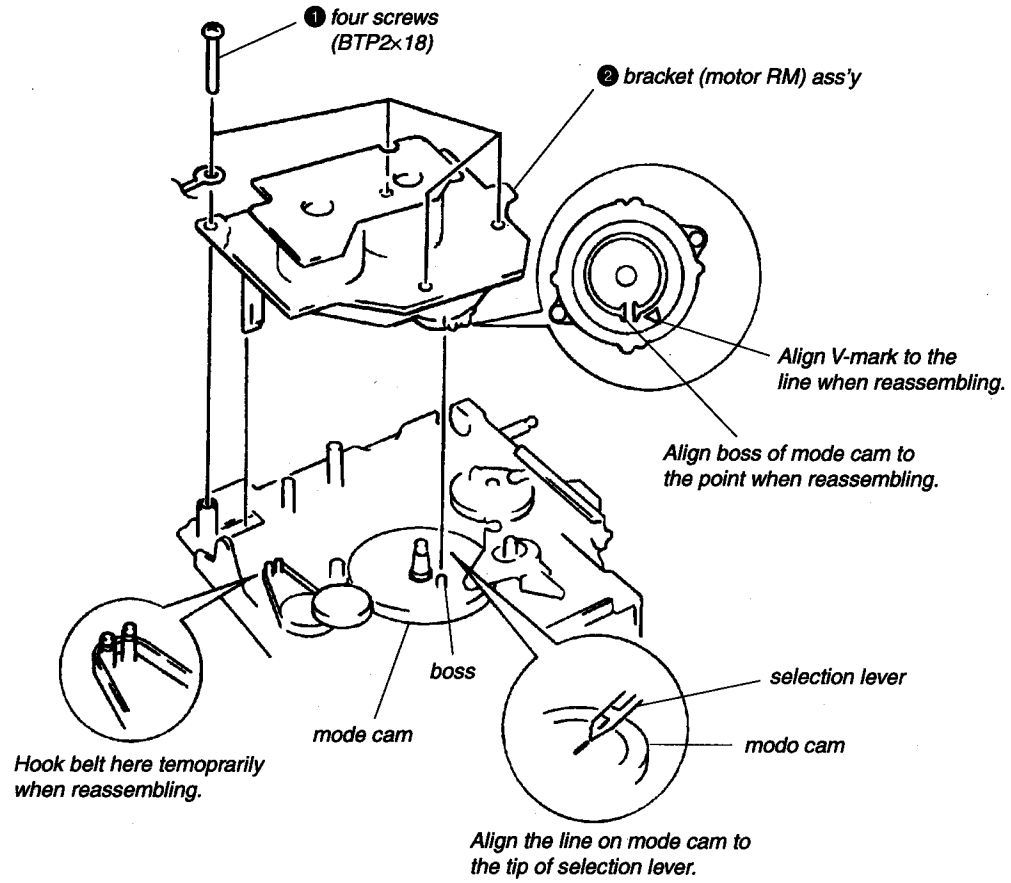
ORNAMENTAL PLATE

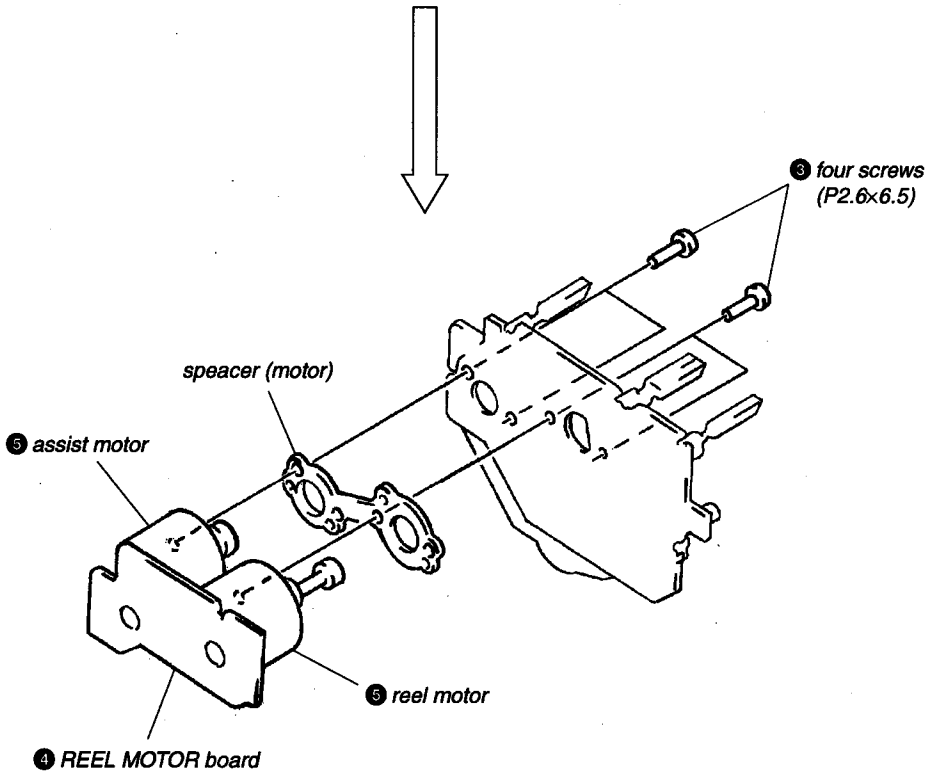


CAPSTAN MOTOR/FLYHEEL



REEL AND ASSIST MOTOR





SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback/erase head pinch roller
   rubber belts capstan
   idlers
2. Demagnetize the record/playback head with a head demagnetizer.
   (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

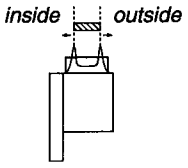
Torque Measurement

Mode	Torque	Meter reading
Forward	CQ-102C	30 to 60 g•cm (0.42 to 0.83 oz•inch)
Forward back tension	CQ-102C	1 to 5 g•cm (0.014 to 0.069 oz•inch)
FF/REW	CQ-201B	65 to 90 g•cm (0.90 to 1.24 oz•inch)

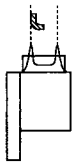
Record/Playback Head Height/Declination Adjustment

Procedures:

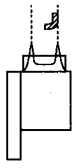
1. Test cassette: CQ-009C
2. Insert the mirror cassette and put the unit in record/Playback mode.
   1) Height Adjustment:
      Check to see if the tape is curling at the tape guide of the head. If it is curling, tighten screws Ⓐ, Ⓑ and Ⓒ, respectively by the same angle, moving the head so that it remains at the same angle throughout the procedure. If it curls on the bottom side of the mirror cassette (actually the inner side), tighten all the screws equally; but loosen them if the tape begins to curl on the top side. (outer side.)



Normal (Record/playback head as seen from the side of the erasehead.)



Curling on the inner side Tighten screws Ⓐ, Ⓑ and Ⓒ.

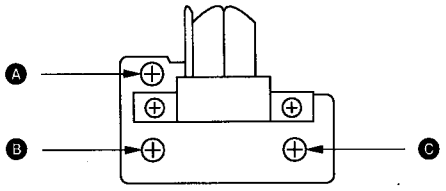


Curling on the outer side Loosen screws Ⓐ, Ⓑ and Ⓒ.

   2) Declination Adjustment:
      While in the record/playback position, set the back tension to 0 (wind the supply reel with something thin like a pencil in a counterclockwise direction) and make sure there is no curling or shifting (shifting up/shifting down) at the guide of the record/playback head.
      Because shifting can only occur due to a difference in the width of the tape and that of the tape guides (curling will otherwise occur), it is necessary to pay close attention since it can be easily overlooked.
      When there is a shift, tighten screws Ⓑ and Ⓒ equally and change the declination of the head. If the tape is shifting up, tighten the screws, and if it is shifting down, loosen them.

      Repeat the adjustments in steps 1) to 2) and fine adjust the height and the declination.

Adjustment Location: – record/playback head –

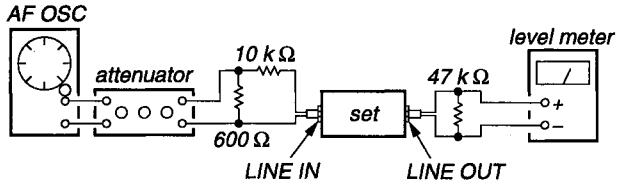


SECTION 4
ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in the service manual. As a rule, adjustments about playback should be performed before those about recording.
The adjustments should be performed before for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.
  DOLBY NR switch : OFF
  MPX FILTER switch : OFF
  MONITOR switch : Tape
- Standard Record:
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

– Record Mode –



0 dB=0.775 V

Standard Input Level

input terminal	LINE IN
source impedance	10 kΩ
input level	0.5 V (–3.8 dB)

Standard Output Level

output terminal	LINE OUT
load impedance	47 kΩ
output level	0.5 V (–3.8 dB)

Test Tape

Type	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
P-4-L300	315 Hz, 0 dB	Playback Level Adjsutment
WS-48B	3 kHz, 0 dB	Tape Speed Check

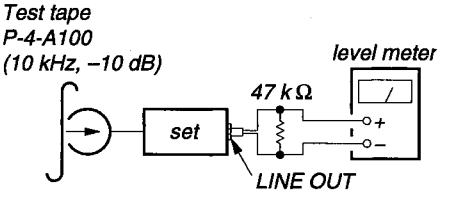
Test Mode

This set will get into test mode by shorting the pins of TP802 (TEST) on MAIN board before turning the power on.

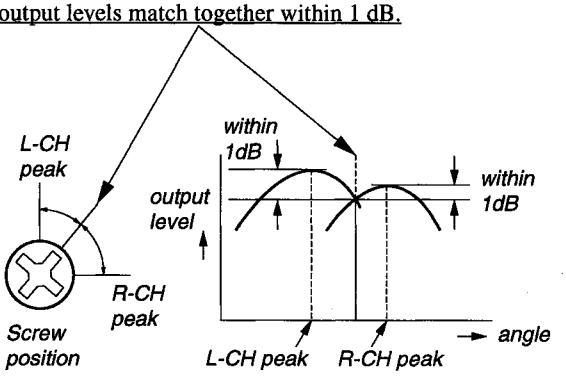
Record/Playback Head Azimuth Adjustment

Procedure:

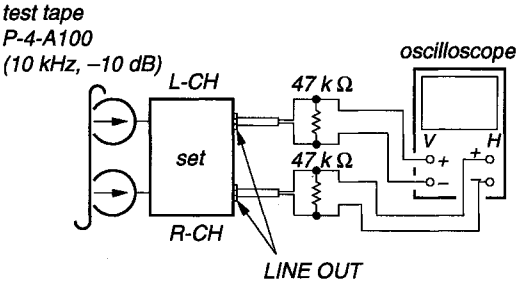
1. Mode : FWD playback

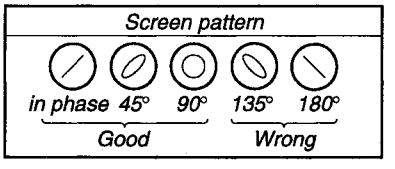


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.



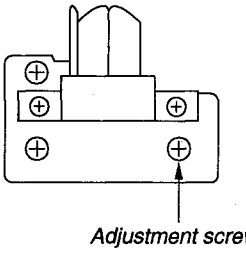
3. Phase Check
   Mode : playback





4. After the adjustment, lock the screw with locking compound.

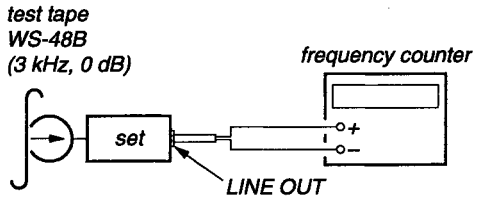
Adjustment Location: Record/Playback head



Tape Speed Check

Procedure:

Mode: playback

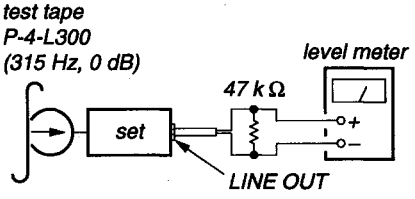


1. Short the connector TP802 (pins ① and ②). (test mode)
2. Set to FWD playback mode.
3. Confirm that the frequency counter reading becomes 3,000 ± 30 Hz.
4. After checked, open the connector TP802.

Playback Level Adjustment

Procedure:

Mode: playback



Adjust RV151 (L-CH) and RV251 (R-CH) so that the reading on level meter meets the adjustment limits below.

Adjustment Limits:

LINE OUT level: –8.2 to –7.2 dB (0.301 to 0.338 V)

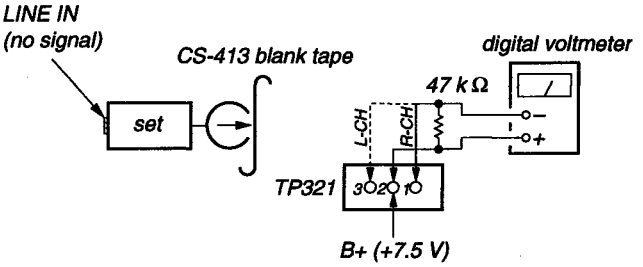
Level difference between channels: within 0.5 dB

Check that the LINE OUT level does not change even if Playback and Stop operation is repeated several times.

Adjustment Location: MAIN board

Bias Consumption Current Adjustment

Procedure:



1. Set RV121 (L-CH) and RV221 (R-CH) to mechanical center and turn the set recording mode.
2. Connect digital voltmeter as shown by the following table.
3. Adjust the following transformers for the minimum readings on the digital voltmeter.

	Measurement Point	Adjustment Part	Value
L-CH	② and ③, TP321	T121	less than 220 mV
R-CH	① and ②, TP321	T221	

Adjustment Location: MAIN board

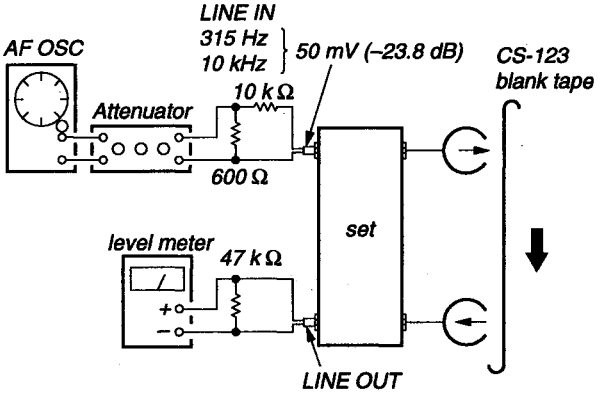
Record Bias Adjustment

Setting:

REC LEVEL control: Standard Record (See page 9.)

Procedure:

1. Mode: record and playback



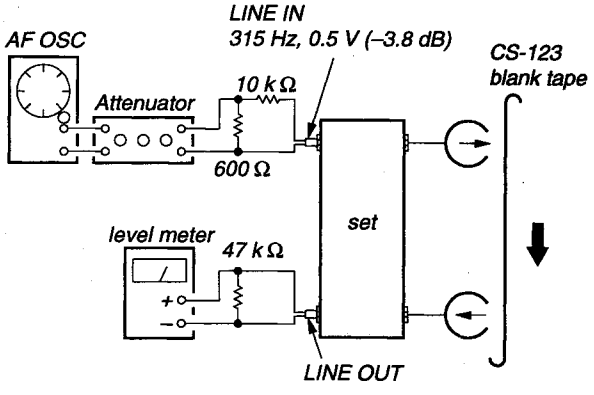
2. Adjust RV121 (L-CH) and RV221 (R-CH) so that 10 kHz playback output is 0±0.3 dB relative to the 315 Hz output.

Adjustment Location: MAIN board

Record Level Adjustment

Setting:
REC LEVEL control: Standard Record (See page 9.)

Procedure:
1. Mode: record and playback



2. Adjust RV112 (L-CH) and RV212 (R-CH) so that the reading on level meter meets the adjustment limits below.

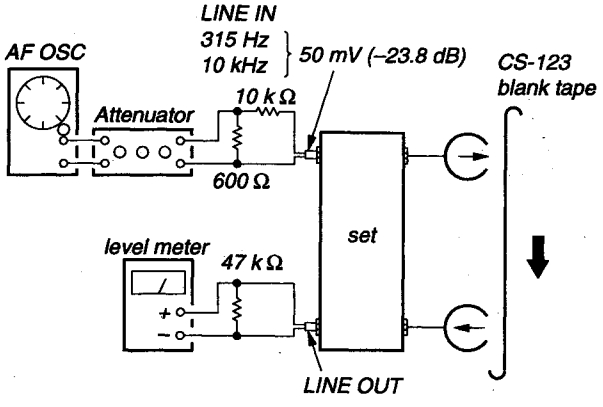
Adjustment Limits: –4.3 to –3.3 dB (0.47 to 0.53 V)

Adjustment Location: MAIN board

Record EQ (IV) Adjustment

Setting:
REC LEVEL control: Standard Record (See page 9.)

Procedure:
1. Mode: record and playback



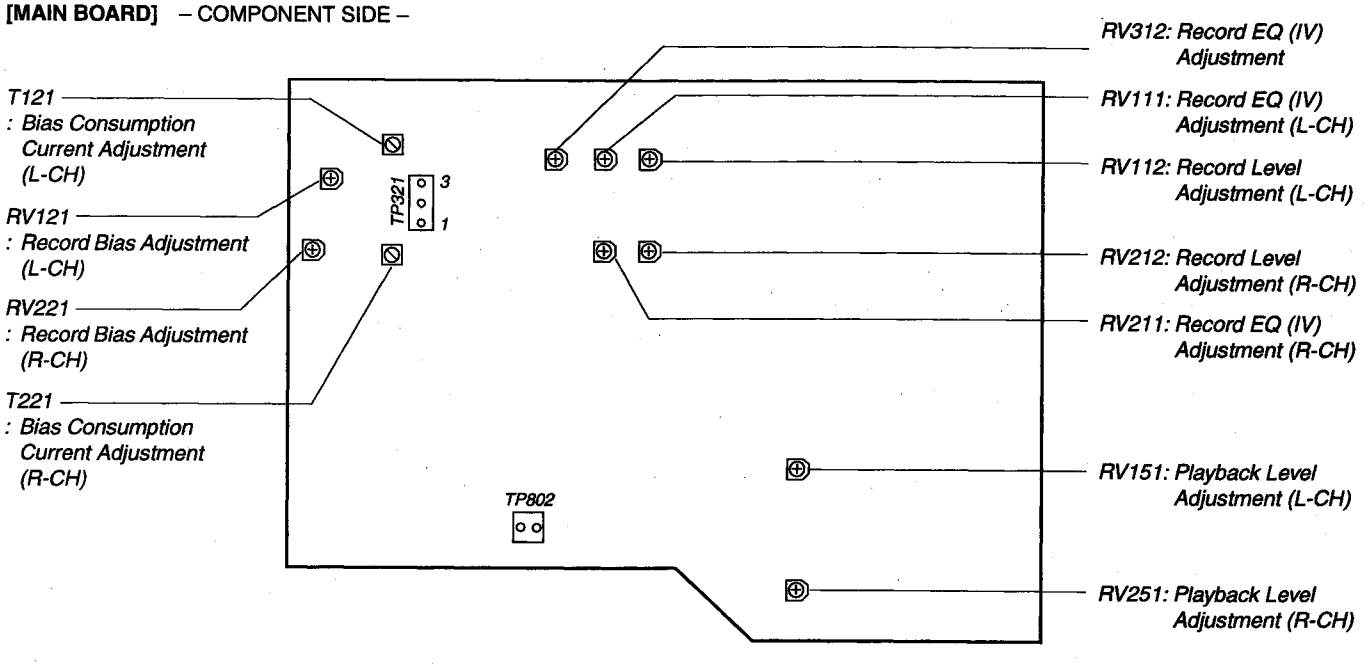
2. Adjust RV111 and RV211 so that they become maximum.
3. Adjust RV111 (L-CH) and RV211 (R-CH) so that the difference between R-CH and L-CH at 10 kHz is within 1 dB.
4. Adjust RV312 so that the R-CH meet the specification.

Adjustment Limits:
10 kHz level difference against 315 Hz reference.
0±1.0 dB

Adjustment Location: MAIN board

Adjustment Location:

[MAIN BOARD] – COMPONENT SIDE –



5-1. IC
MAIN BO

Pin. No.
1
2
3
4
5
6
7
8
9
10
11
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SECTION 5
DIAGRAMS

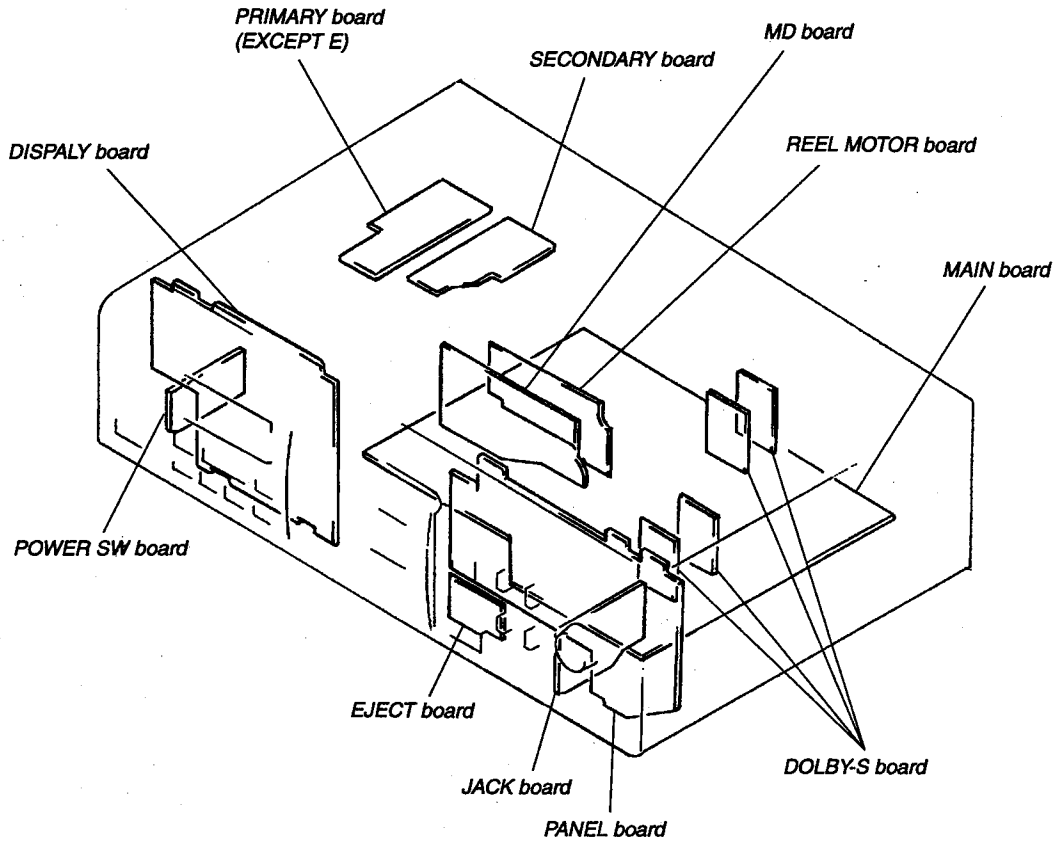
5-1. IC PIN FUNCTION DESCRIPTION

MAIN BOARD IC801 M38172M4-171FP (SYSTEM CONTROL)

Pin. No.	Pin Name	I/O	Function
1	T • REEL	I	Take up reel rotation detection input.
2	S • REEL	I	Supply reel rotation detection input.
3	METER L-CH	I	Meter level L-CH input.
4	METER R-CH	I	Meter level R-CH input.
5	AMS • IN	I	AMS signal input terminal.
6	STOP SW	I	Mechanism stop switch input terminal.
7	CLOSE SW	–	Not used. (H level)
8	OPEN SW	–	Not used. (H level)
9	CAM • SW3	–	Not used. (H level)
10	CAM • SW2	–	Not used. (H level)
11	CAM • SW1	–	Not used. (H level)
12	CAM • SW0	–	Not used. (H level)
13	CAP • M • ON/OFF	O	Capstan motor ON/OFF control. H: ON
14	ASIST M • UP	–	Not used. (L level)
15	ASIST M • DOWN	–	Not used. (L level)
16	REEL M • FWD	O	Reel motor FWD control.
17	REEL M • REV	O	Reel motor REW control.
18	EJECT • V (6.5 V)	O	Reel motor eject control.
19	FF/REW • V (4.4 V)	O	Reel motor FF/REW control.
20	PLAY • V (2.5 V)	O	Reel motor play control.
21	TYPE • IV	I	Type IV SW input terminal.
22	HALF SW	–	Not used. (Open)
23	TYPE • II	I	Type II SW input terminal.
24	TAB • SW	–	Not used. (H level)
25	POWER IN	I	Power OFF detection terminal.
26	SIRCS IN	I	Sircs signal input terminal.
27	RESET	I	System reset terminal.
28	XC IN	–	Not used. (Open)
29	XC OUT	–	Not used. (Open)
30	X IN	I	System clock oscillator input. (4.0 MHz)
31	X OUT	O	System clock oscillator output. (4.0 MHz)
32	VSS	–	Ground.
33	VER 200/$\overline{190}$	I	Version selection input.
34	POWER OUT	O	Power hold output terminal.
35	MONITOR TAPE/$\overline{\text{SOURCE}}$	O	Audio mode select terminal.
36	LINE M • $\overline{\text{ON}}$/OFF	O	Line mute ON/OFF control.
37	OSC H/$\overline{\text{L}}$	O	OSC frequency H/L selection terminal.
38	CAL ON/$\overline{\text{OFF}}$	O	Calibration ON/OFF control.
39	REC • $\overline{\text{ON}}$/OFF	O	REC mute ON/OFF control.
40	BIAS ON/$\overline{\text{OFF}}$	O	Bias ON/OFF control.
41	DOL • CON (H-C, M, -B, L-OFF)	O	Dolby ON/OFF control.
42	SEG • IV	O	Bias EQ IV control.
43	SEG • DOL C (B/C • $\overline{\text{S}}$)	O	VFD segment drive (Dolby C).
44	SEG • DOL B (B/C • $\overline{\text{S}}$)	O	VFD segment drive (Dolby B).
45	SEG PROPER (I, II)	O	VFD segment drive (Type I, II).

Pin. No.	Pin Name	I/O	Function
46	SEG • FIL ON/$\overline{\text{OFF}}$	O	VFD segment drive (Filter).
47	SEG • DOL S ON/$\overline{\text{OFF}}$	O	VFD segment drive (Dolby S).
48	–	–	Not used. (Open)
49	SEG01	O	VFD segment drive.
50	SEG02	O	VFD segment drive.
51	SEG06	O	VFD segment drive.
52	SEG07	O	VFD segment drive.
53	SEG03	O	VFD segment drive.
54	SEG05	O	VFD segment drive.
55	SEG04	O	VFD segment drive.
56	SEG08	O	VFD segment drive.
57	SEG16	O	VFD segment drive.
58	SEG09	O	VFD segment drive.
59	SEG10	O	VFD segment drive.
60	SEG14	O	VFD segment drive.
61	SEG15	O	VFD segment drive.
62	SEG11	O	VFD segment drive.
63	SEG13	O	VFD segment drive.
64	SEG12	O	VFD segment drive.
65	SEG • CAL	O	VFD segment drive. (calibration)
66	SEG • I	O	Bias EQ I control.
67	SEG • II	O	Bias EQ II control.
68	G5-HYOUJI	O	VFD colum display.
69	G4-SEC	O	VFD colum SEC.
70	G3-MIN	O	VFD colum MIN.
71	G2-RCH	O	VFD colum R-CH.
72	G1-LCH	O	VFD colum L-CH.
73	VCC	–	Power supply. (+5 V)
74	VEE	–	Power supply. (–24 V)
75	AVSS	–	Analog for power supply. (Ground)
76	VREF	–	A/D reference voltage. (+5 V)
77	KEY2	I	Key input terminal.
78	KEY1	I	Key input terminal.
79	HALF SW	I	Half pawl switch input terminal.
80	DOLBY SW	I	Dolby switch input terminal.

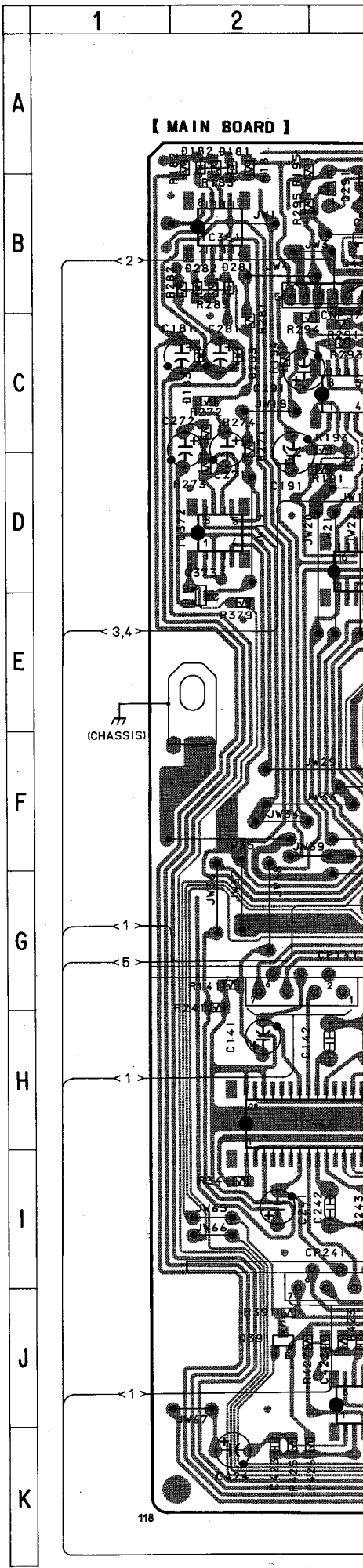
• **Circuit Boards Location**



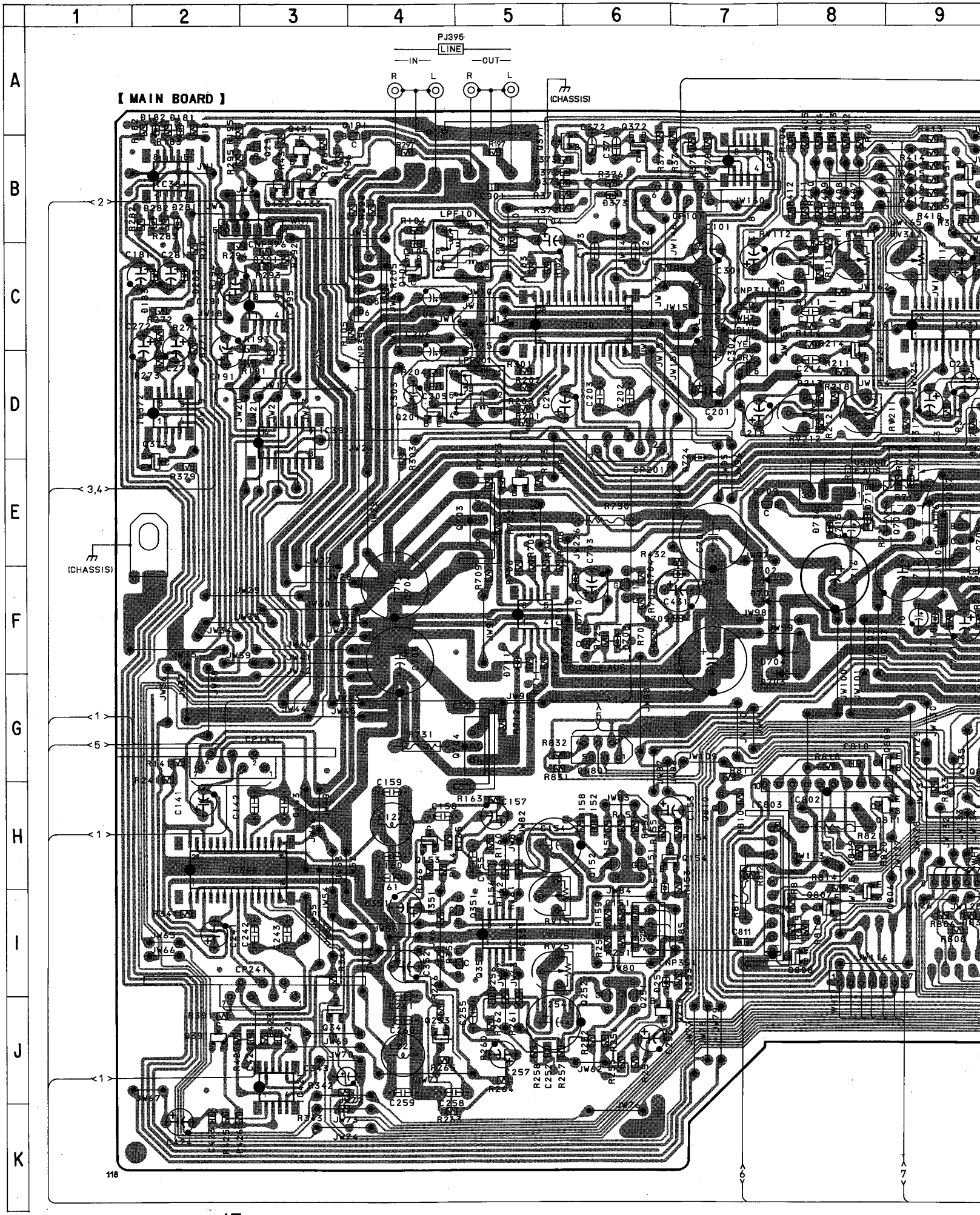
• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D151	H-6	IC803	H-7
D181	A-2	IC804	I-10
D182	A-2	IC901	B-25
D183	C-2	IC1001	B-28
D251	I-6	IC1002	B-29
D281	B-2		
D282	B-2	Q101	C-4
D283	C-2	Q111	C-8
D301	J-11	Q112	C-10
D311	B-10	Q151	H-6
D312	B-9	Q152	H-6
D313	B-10	Q153	H-4
D314	B-9	Q154	H-6
D315	B-10	Q191	A-4
D321	J-12	Q201	D-4
D322	J-12	Q211	C-8
D341	J-11	Q212	D-9
D342	J-12	Q251	I-6
D371	B-5	Q252	I-6
D372	B-5	Q253	J-4
D373	B-6	Q254	J-6
D431	F-7	Q291	B-3
D701	F-7	Q311	B-9
D702	F-7	Q312	B-10
D703	G-7	Q313	B-10
D704	F-7	Q314	B-9
D705	F-11	Q321	E-12
D706	E-9	Q322	E-11
D707	F-13	Q323	D-13
D708	F-6	Q324	E-13
D709	F-7	Q325	D-13
D710	F-6	Q326	C-13
D711	F-5	Q327	C-13
D712	F-12	Q341	J-3
D715	E-8	Q351	I-5
D716	E-8	Q352	I-5
D717	F-10	Q371	B-5
D718	F-9	Q372	B-6
D719	E-10	Q373	D-2
D720	E-10	Q391	J-2
D721	F-9	Q431	B-3
D722	E-12	Q432	B-3
D723	E-5	Q433	B-3
D724	D-7	Q702	F-6
D801	H-10	Q703	E-5
D802	H-13	Q704	G-5
D803	H-13	Q705	E-9
D804	H-13	Q706	E-10
D901	B-16	Q707	E-9
D902	B-16	Q708	A-11
D903	B-16	Q709	E-7
D1001	F-29	Q710	F-10
		Q711	F-10
IC1	H-29	Q712	F-6
IC301	C-6	Q722	E-5
IC304	C-12	Q802	I-11
IC311	C-9	Q803	I-11
IC341	H-2	Q804	I-12
IC351	I-5	Q805	J-10
IC371	B-7	Q806	I-8
IC372	D-2	Q807	I-8
IC381	B-2	Q808	I-8
IC385	J-25	Q809	G-8
IC391	D-3	Q810	H-7
IC395	C-3	Q811	H-8
IC421	J-3	Q812	G-10
IC701	F-5	Q901	B-16
IC801	H-11	Q902	B-16
IC802	H-8	Q903	B-16

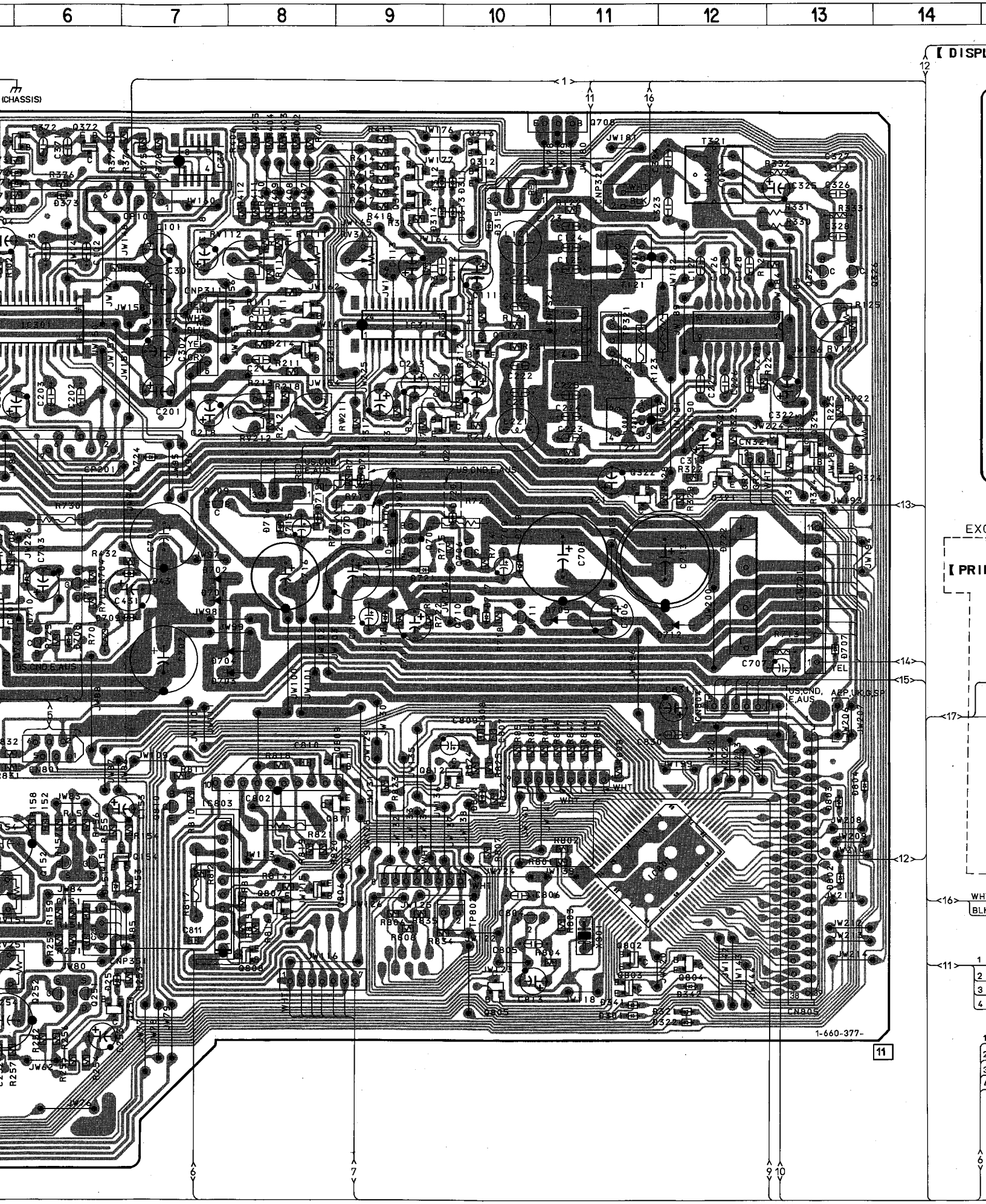
【 MAIN BOARD 】



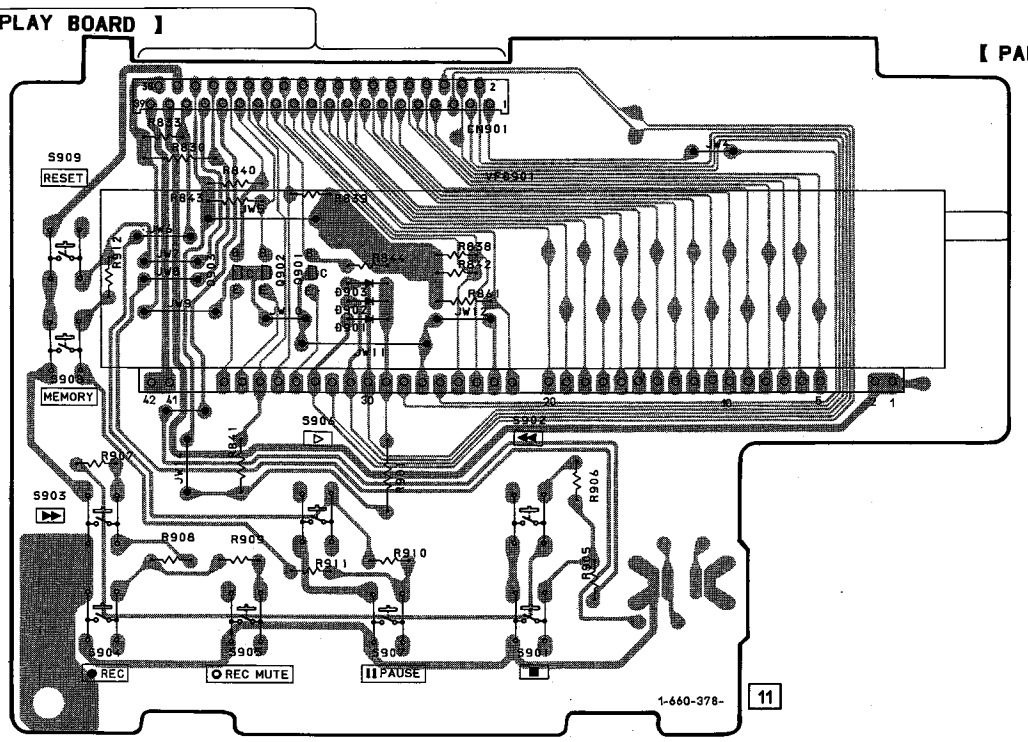
5-2. PRINTED WIRING BOARDS • See page 15 for Circuit Boards Location.



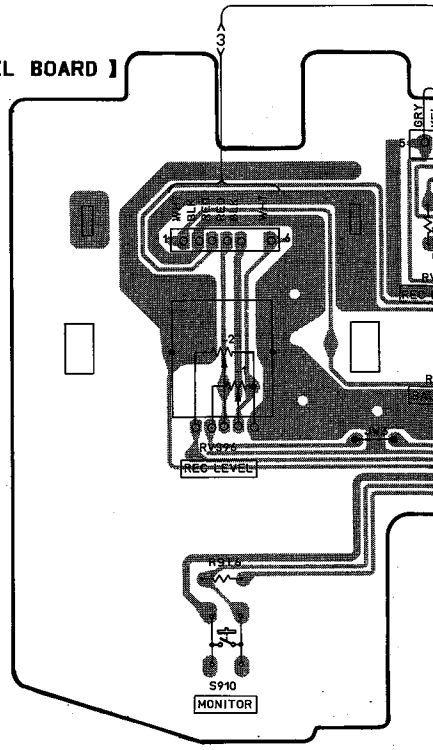
on.



【 DISPLAY BOARD 】

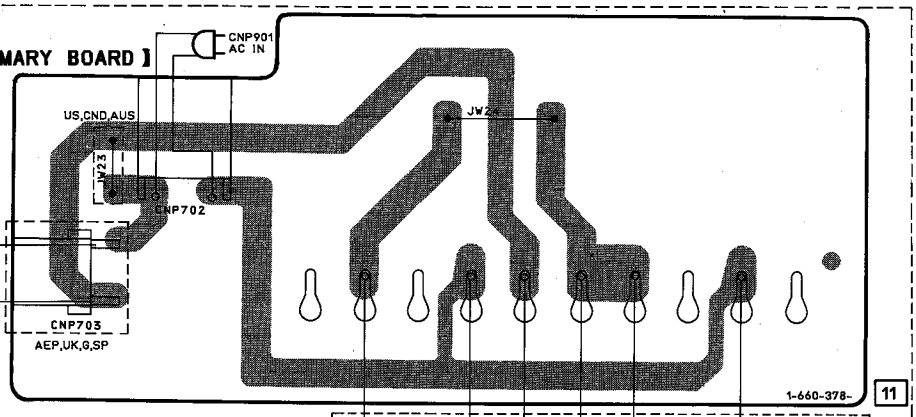


【 PANEL BOARD 】



EXCEPT E

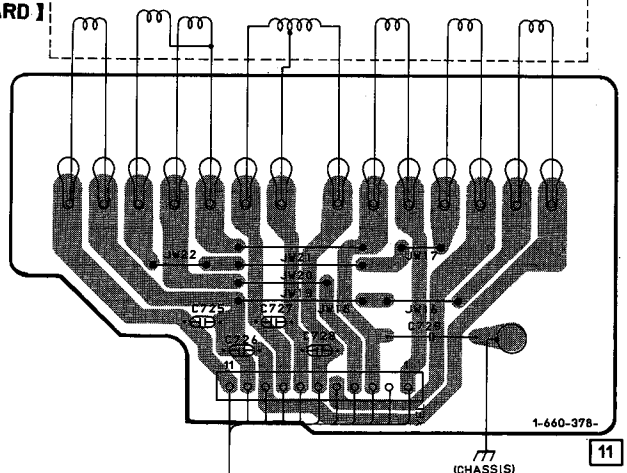
【 PRIMARY BOARD 】



T701
POWER TRANSFORMER

* NOT REPLACEABLE:
BUILT IN TRANSFORMER

【 SECONDARY BOARD 】



HE301
ERASE HEAD
WHT
BLK

HRP301
RECORD HEAD
L-CH
R-CH
PLAYBACK HEAD
L-CH
R-CH

E

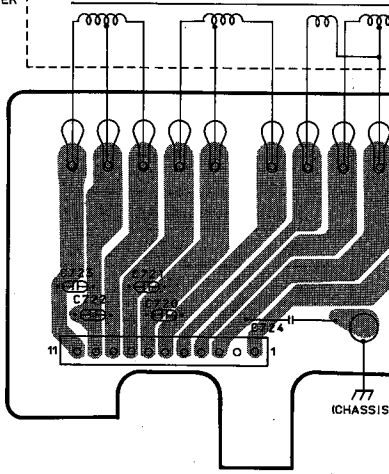
CNP901
AC IN

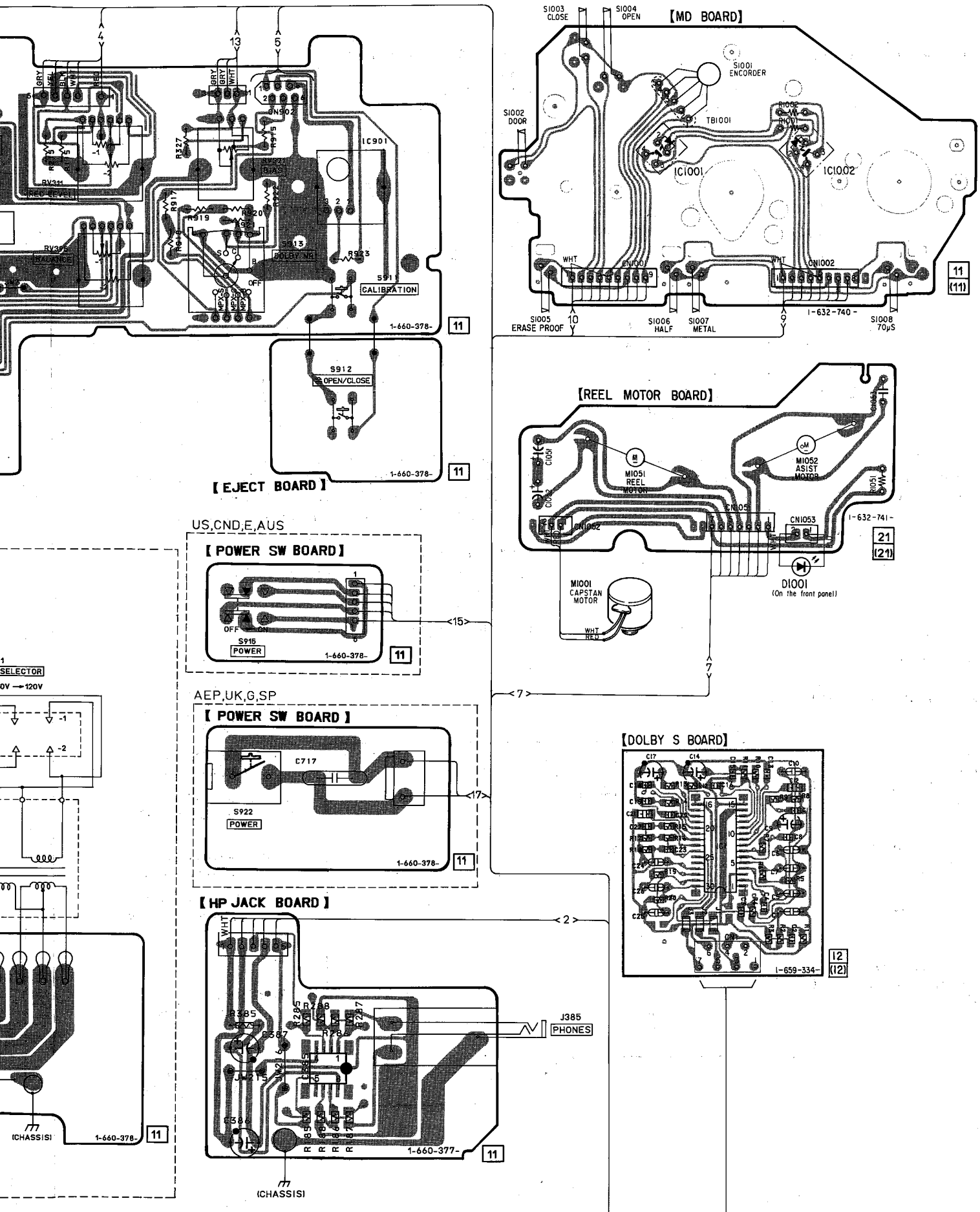
S701
VOLTAGE SELECTOR
220V → 240V → 120V

T701
POWER TRANSFORMER

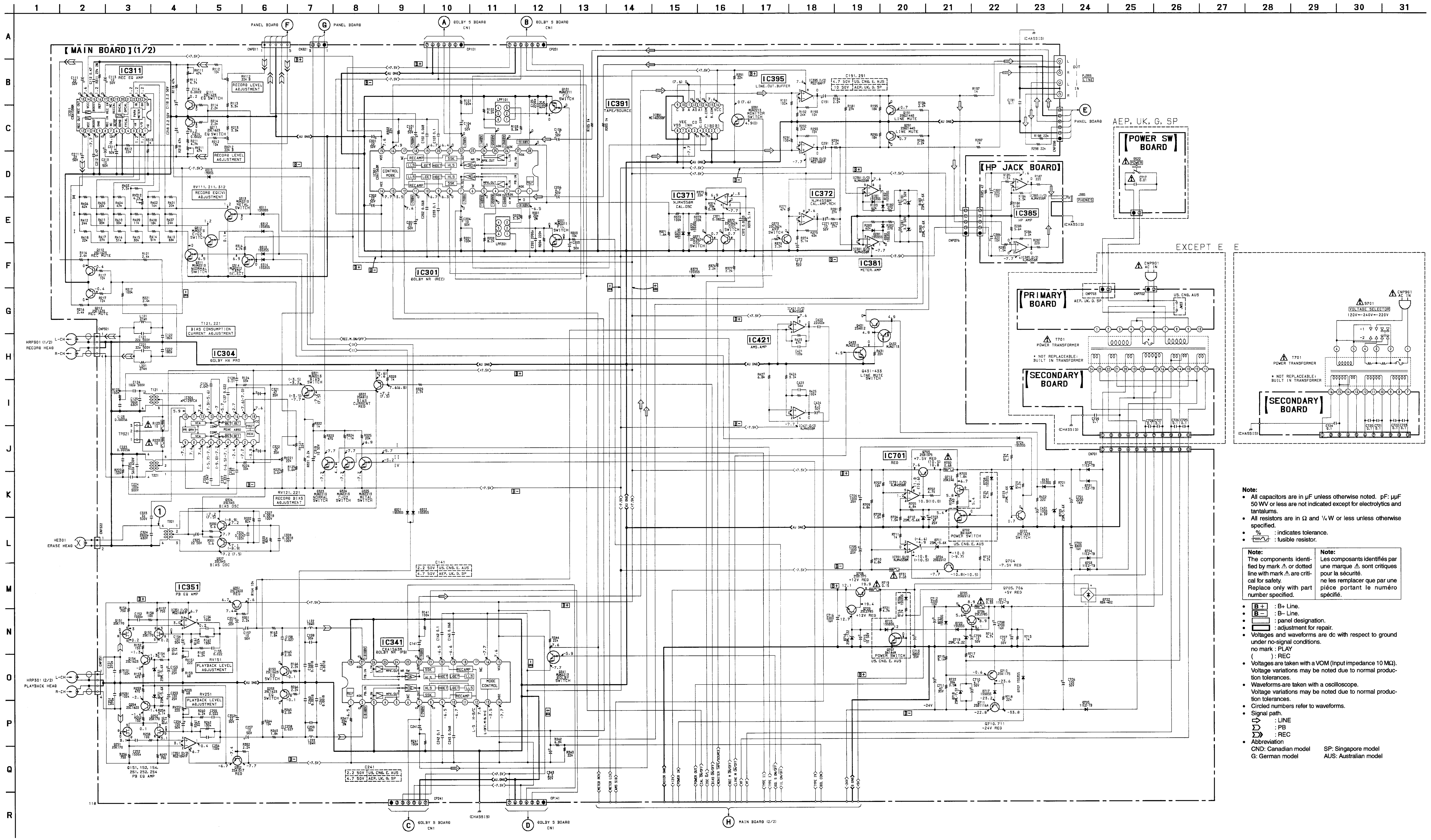
* NOT REPLACEABLE
:BUILT IN TRANSFORMER

【SECONDARY BOARD】

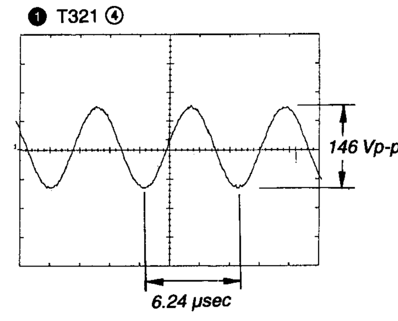



【MD BOARD】
SI003 CLOSE
SI004 OPEN
SI001 ENCORDER
SI002 DOOR
TBI001
IC1001
IC1002
CNI001
CNI002
WHT
SI005 ERASE PROOF
SI006 HALF
SI007 METAL
SI008 70μS
1-632-740-
11 (11)
【EJECT BOARD】
IC901
S913 DOLBY NR
S911 CALIBRATION
S912 OPEN/CLOSE
1-660-378-
11
【REEL MOTOR BOARD】
MI051 REEL MOTOR
MI052 ASIST MOTOR
CNI053
1-632-741-
21 (21)
DI001 (On the front panel)
MI001 CAPSTAN MOTOR
US,CND,E,AUS
【POWER SW BOARD】
S915 POWER
AEP,UK,G,SP
【POWER SW BOARD】
C717
S922 POWER
【DOLBY S BOARD】
1-659-334-
12 (12)
【HP JACK BOARD】
J385 PHONES
1-660-377-
(CHASSIS)
SELECTOR
120V
(CHASSIS)
1-660-378-
11
<15>
<17>
<7>
<2>
<1>

5-3. SCHEMATIC DIAGRAM – AUDIO Section –



• **Waveform**



Note on Printed Wiring Boards:

- ——o : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- △ : internal component.
- ▒ : Pattern from the side which enables seeing.
- Abbreviation
  CND: Canadian model   SP: Singapore model
  G: German model   AUS: Australian model

Note:

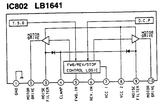
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¹/₄ W or less unless otherwise specified.
- % : indicates tolerance.
- : fusible resistor.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

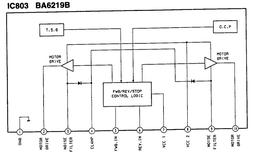
- B+ : B+ Line.
- B– : B– Line.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : PLAY
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : LINE
  ▷ : PB
  ▷▷ : REC
- Abbreviation
  CND: Canadian model   SP: Singapore model
  G: German model   AUS: Australian model

• IC Block Diagrams

IC802 LB1641

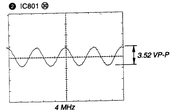


IC803 BA6219B



• Waveform

IC801 ⑭



Note:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.

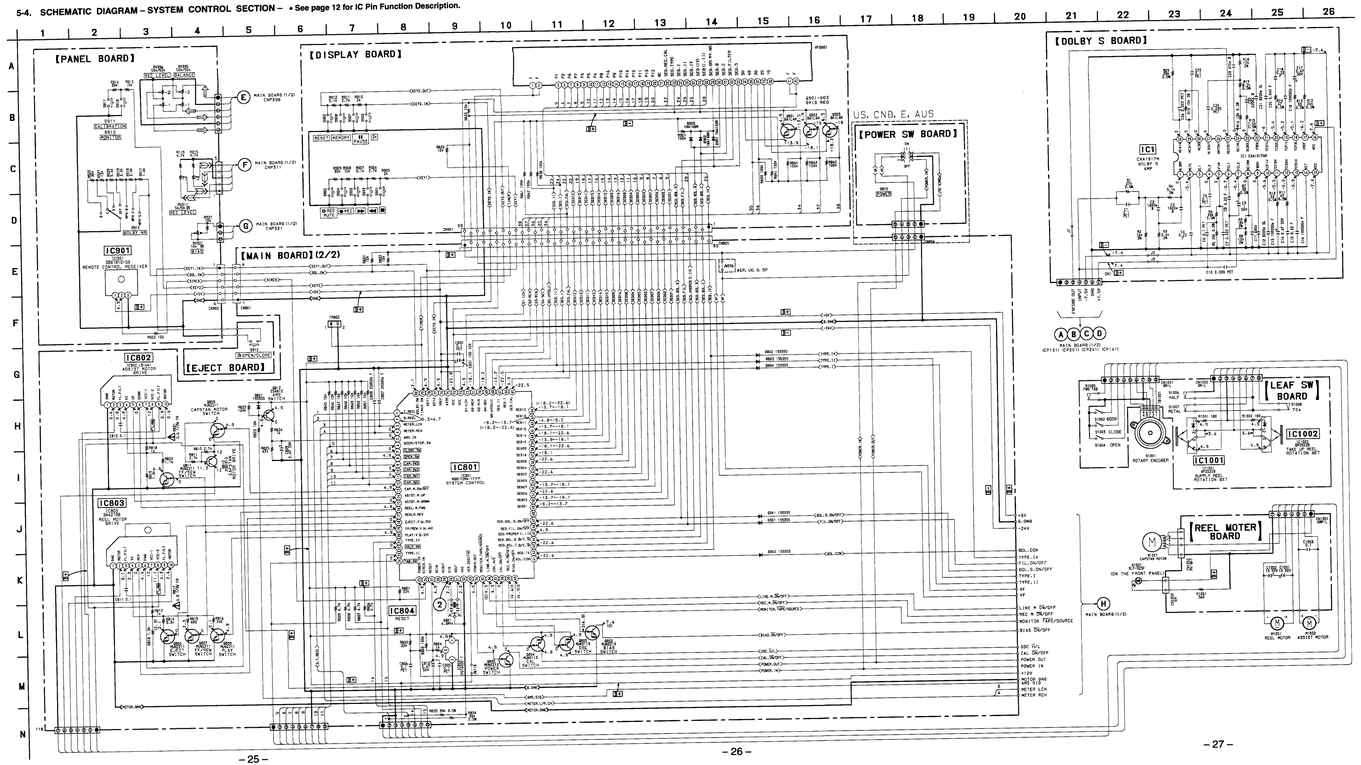
Note:
The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque △ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- : fusible resistor.
- B+ : B+ Line.
- B− : B− Line.
- : panel designation.

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : PLAY
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : LINE
  ⇨ : REC
- Abbreviation
  CND: Canadian model SP: Singapore model
  G: German model AUS: Australian model

5-4. SCHEMATIC DIAGRAM – SYSTEM CONTROL SECTION – • See page 12 for IC Pin Function Description.



SECTION 6
EXPLODED VIEWS

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation
  CND: Canadian G: German
  SP: Singapore AUS: Australian

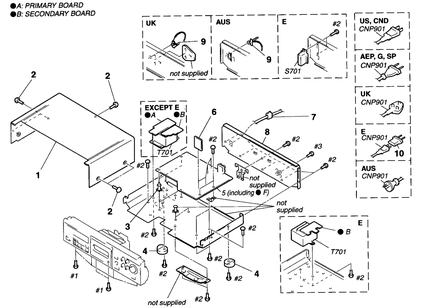
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

(1) CHASSIS SECTION

●*A: PRIMARY BOARD*
●*B: SECONDARY BOARD*

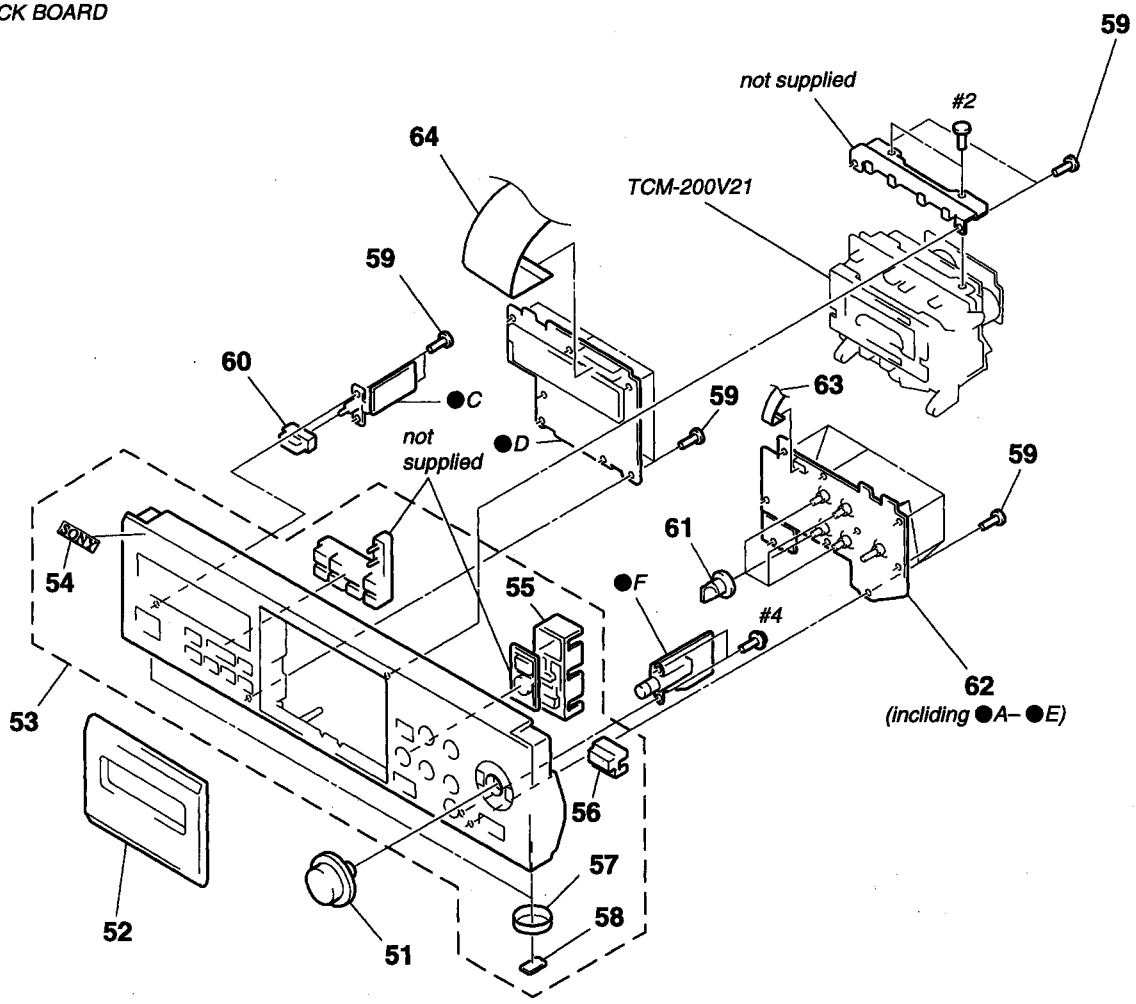


Ref. No.	Part No.	Description	Remark
* 1	3-931-432-01	CASE (410726)	
2	3-704-366-01	SCREW (CASE) (M3X8)	
* 3	3-346-255-31	HOLDER, PC BOARD	
4	X-4947-208-1	FOOT ASSY (F501505)(BLACK)(US, CND)	
4	X-4947-207-1	FOOT ASSY (F501505)(SILVER) (AEP, UK, G, E, SP, AUS)	
* 5	A-2007-535-A	MAIN BOARD, COMPLETE (AEP, UK, G, SP)	
* 5	A-2007-537-A	MAIN BOARD, COMPLETE (E, AUS)	
* 5	A-2007-539-A	MAIN BOARD, COMPLETE (US, CND)	
* 6	A-2007-481-A	DOLBY-S BOARD, COMPLETE	
* 7	3-703-244-00	BUSHING (2104), CORD (AEP, UK, G, SP, AUS)	
7	3-703-571-11	BUSHING (S) (4516), CORD (US, CND, E)	
* 8	3-937-123-01	PANEL, BACK (AEP, G, SP)	
* 8	3-937-123-11	PANEL, BACK (UK)	
* 8	3-937-123-21	PANEL, BACK (E)	

Ref. No.	Part No.	Description	Remark
* 8	3-933-308-71	PANEL, BACK (US, CND)	
* 8	3-937-123-31	PANEL, BACK (AUS)	
9	4-956-370-12	BAND, PLUG FIXED (UK, AUS)	
△10	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
△CNP901	1-551-188-99	CORD, POWER (E)	
△CNP901	1-558-945-21	CORD, POWER (POLAR.SPT-1)(US, CND)	
△CNP901	1-575-651-21	CORD, POWER (AEP, G, SP)	
△CNP901	1-696-586-11	CORD, POWER (UK)	
△CNP901	1-696-845-11	CORD, POWER (AUS)	
△S701	1-692-155-11	SELECTOR, POWER VOLTAGE (E)	
△T701	1-429-502-11	TRANSFORMER, POWER (US, CND)	
△T701	1-429-503-11	TRANSFORMER, POWER (AEP, UK, G, SP)	
△T701	1-429-613-11	TRANSFORMER, POWER (E)	
△T701	1-429-656-11	TRANSFORMER, POWER (AUS)	

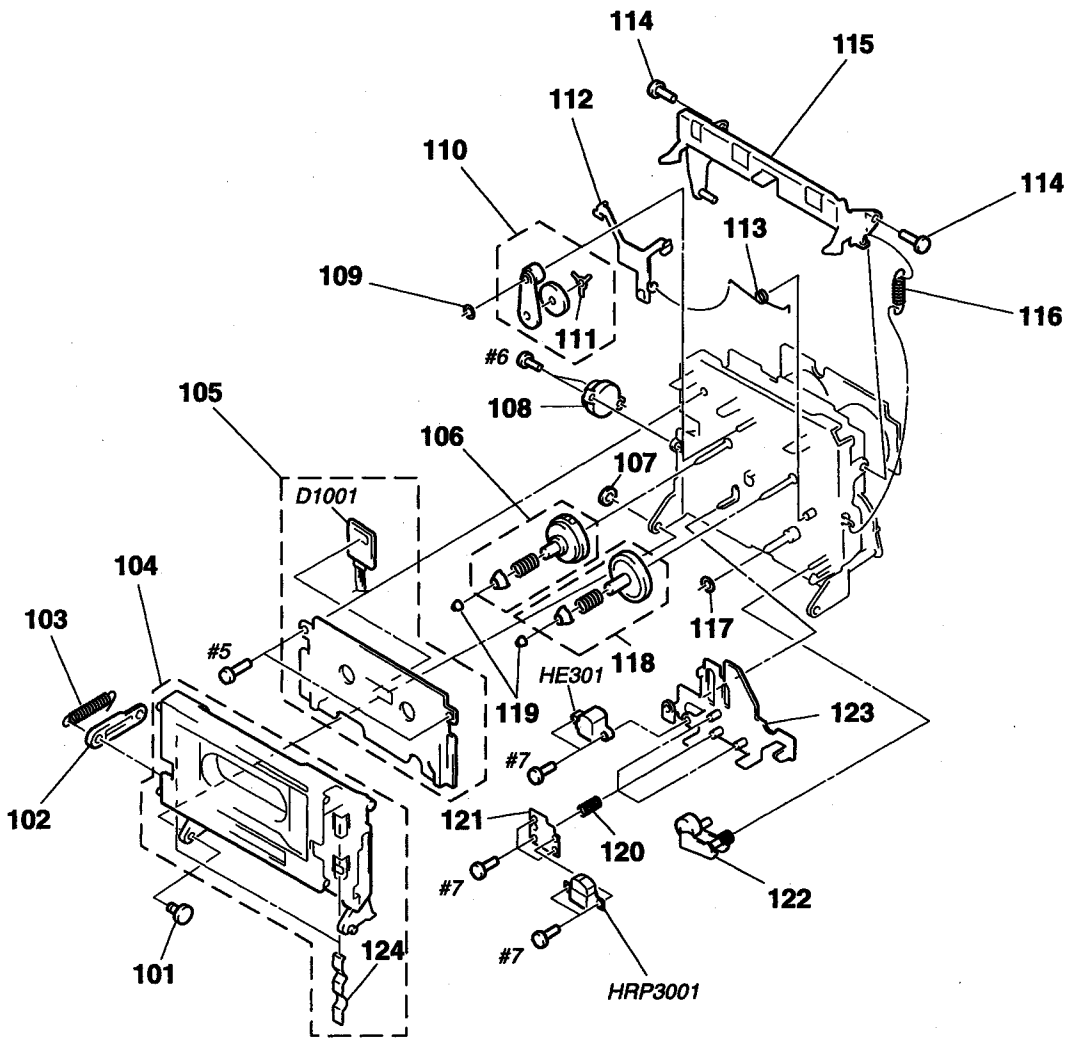
(2) FRONT PANEL SECTION

●C: POWER SW BOARD
●D: DISPLAY BOARD
●E: EJECT BOARD
●F: JACK BOARD



Ref. No.	Part No.	Description	Remark
51	3-933-300-11	KNOB (REC)	
52	X-3371-683-1	LID ASSY, CASSETTE (AEP, UK, G, E, SP, AUS)	
52	X-3371-685-1	LID ASSY, CASSETTE (US, CND)	
53	X-3371-675-1	PANEL ASSY, FRONT (AEP, UK, G, E, SP, AUS)	
53	X-3371-680-1	PANEL ASSY, FRONT (US, CND)	
54	4-963-404-21	EMBLEM (5-A), SONY	
55	3-933-298-01	BUTTON (C.E)	
56	3-933-296-01	BUTTON (MONITOR)	
57	4-977-593-11	RING (DIA 50), ORNAMENTAL (AEP, UK, G, E, SP, AUS)	
58	4-977-358-11	CUSHION (8X12.5)	
59	4-951-620-01	SCREW (2.6X8), +BVTP	
60	3-931-429-01	BUTTON (POWER)	
61	3-933-299-01	KNOB (DIA. 12)	
* 62	A-2007-536-A	PANEL BOARD, COMPLETE (E)	
* 62	A-2007-538-A	PANEL BOARD, COMPLETE (US, CND, AUS)	
* 62	A-2007-540-A	PANEL BOARD, COMPLETE (AEP, UK, G, SP)	
63	1-777-110-11	WIRE (FLAT TYPE)(6 CORE)	
64	1-777-109-11	WIRE (FLAT TYPE)(39 CORE)	

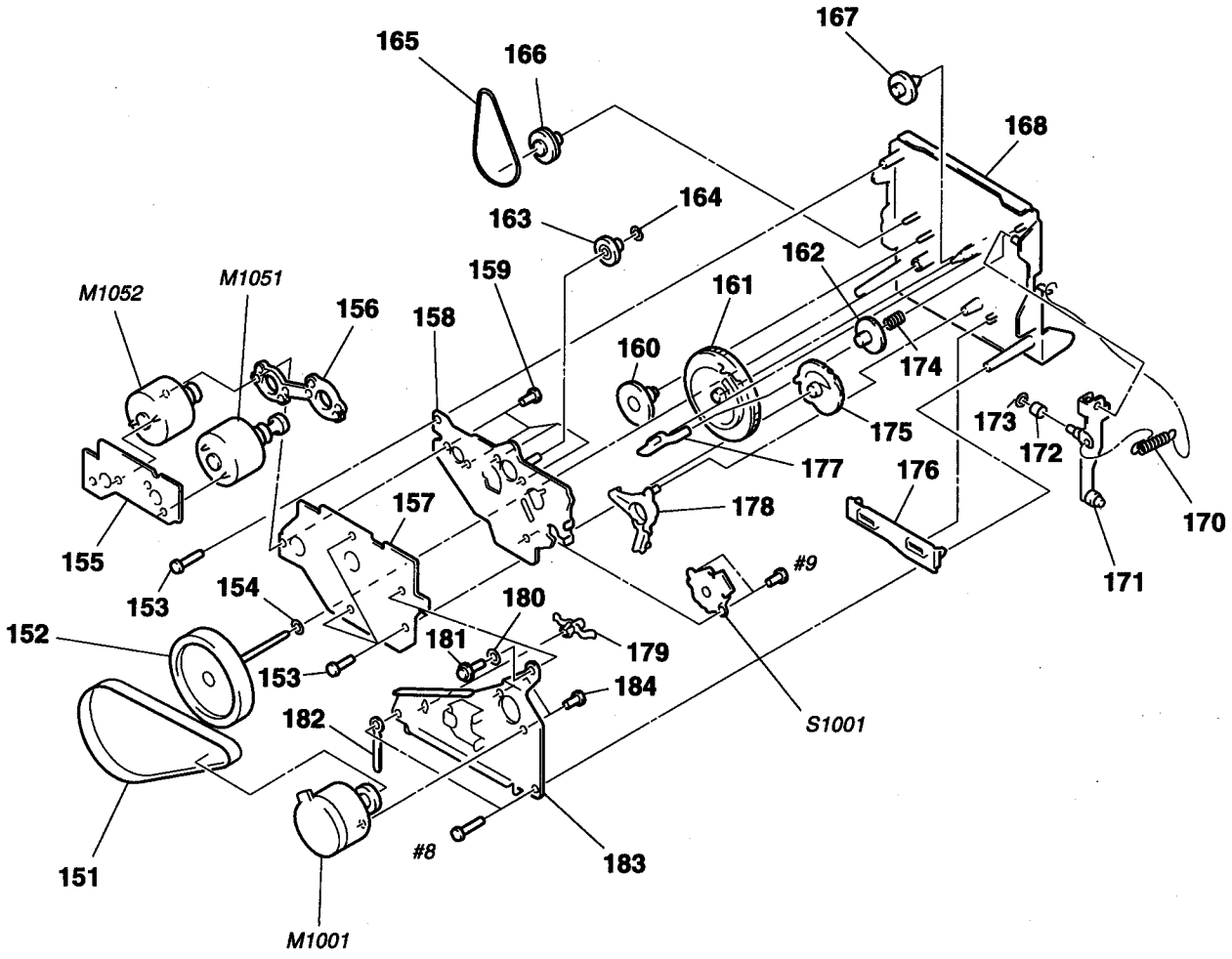
(3) MECHANISM DECK SECTION-1 (TCM-200V21)



Ref. No.	Part No.	Description	Remark
101	3-378-341-01	SHAFT (L) (CASSETTE HOLDER)	
* 102	3-356-717-01	LEVER (JOINT)	
103	3-356-626-01	SPRING, TENSION	
104	X-3371-433-1	HOLDER (CD-C) ASSY, CASSETTE	
105	X-3371-412-1	PLATE ASSY, ORNAMENTAL	
106	X-3356-628-1	GEAR (S) ASSY	
107	3-558-708-21	WASHER, STOPPER	
108	3-712-786-01	DAMPER, OIL	
109	3-669-465-11	WASHER (FR2)	
110	X-3371-411-1	LEVER (FR2) ASSY	
111	3-356-644-11	SPRING (FR), LEAF	
112	3-356-614-01	SLIDER (BRAKE)	
113	3-356-619-01	SPRING (B), TORSION	
114	3-356-601-11	SCREW, STEP	

Ref. No.	Part No.	Description	Remark
115	X-3371-408-1	LEVER (LIFTER) ASSY	
116	3-356-625-01	SPRING, TENSION	
117	3-356-713-01	WASHER	
118	X-3356-627-1	GEAR (T) ASSY	
119	3-362-308-01	CAP (REEL)	
120	3-356-659-11	SPRING (RPH), COMPRESSION	
121	3-356-742-11	BRACKET (GUIDE R)	
122	X-3371-414-1	LEVER (PINCH LEVER T) ASSY	
123	X-3371-431-1	SLIDER (HEAD CHASSIS V21M)ASSY	
124	3-356-691-11	SPRING (CASSETTE)	
D1001	8-719-980-85	DIODE SLF-325C	
HE301	1-543-673-11	HEAD, MAGNETIC (ERASE)	
HRP301	1-543-733-11	HEAD, MAGNETIC(RECORD/PLAYBACK)	

(4) MECHANISM DECK SECTION-2 (TCM-200V21)



Ref. No.	Part No.	Description	Remark
151	3-356-744-01	BELT (CAPSTAN V)	
152	X-3356-642-1	FLYWHEEL (R FWD) ASSY	
153	3-355-801-01	SCREW (BTP 2X18)	
154	3-356-705-01	WASHER (CAPSTAN)	
* 155	1-632-741-21	REEL MOTOR BOARD	
156	3-356-628-11	SPACER (MOTOR)	
* 157	1-632-740-11	MD BOARD	
* 158	X-3371-426-1	BRACKET (MOTOR RM) ASSY	
159	3-363-804-01	SCREW (+P 2.6X6.5)	
160	3-356-606-01	GEAR (MODE)	
161	3-356-747-01	GEAR (MODE CAM C)	
162	3-356-609-01	GEAR (LOADING)	
163	3-356-702-11	GEAR (COMMUNICATION B)	
164	3-669-465-01	WASHER (1.5), STOPPER	
165	3-356-603-01	BELT (MODE)	
166	3-356-607-01	PULLEY (MODE)	
167	3-356-703-01	GEAR (COMMUNICATION C)	
168	X-3371-417-1	CHASSIS (V21M) COMPLETE ASSY	
170	3-356-624-01	SPRING, TENSION	

Ref. No.	Part No.	Description	Remark
171	X-3371-407-1	LEVER (LOADING) ASSY	
172	3-356-630-01	ROLLER (LOADING)	
173	3-558-708-11	WASHER, STOPPER	
174	3-356-605-01	SPRING, COMPRESSION	
175	3-356-616-01	GEAR (LOADING CAM)	
176	3-356-653-01	SLIDER (PAUSE)	
177	3-356-617-01	LEVER (SELECTION)	
178	3-356-613-01	LEVER (MODE)	
179	3-575-321-00	RETAINER, THRUST, CAPSTAN	
* 180	3-356-718-01	SPACER (THRUST RETAINER R)	
181	3-356-707-01	SCREW (+PTPWH 2X25)	
182	3-703-397-01	STOPPER, WIRING	
183	3-356-629-31	BRACKET (THRUST RETAINER R)	
184	4-885-599-00	SCREW, FITTING, REINFORCEMENT	
M1001	X-3371-423-1	MOTOR (CAPSTAN V21M) ASSY	
M1051	X-3371-429-1	MOTOR (REEL RM) ASSY	
M1052	X-3371-428-1	MOTOR (ASSIST) ASSY	
S1001	1-466-238-11	ENCODER, ROTARY	

DOLBY S **MAIN**

HP JACK

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Abbreviation
  CND : Canadian SP : Singapore
  G : German AUS : Australian
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA. . : μA. . uPA. . : μPA. .
  uPB. . : μPB. . uPC. . : μPC. .
  uPD. . : μPD. .
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description				Remark
*	A-2007-481-A	DOLBY S BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C1	1-136-165-00	FILM	0.1uF	5%	50V	
C2	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V	
C3	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V	
C4	1-164-222-11	CERAMIC CHIP	0.22uF		25V	
C5	1-136-165-00	FILM	0.1uF	5%	50V	
C6	1-136-165-00	FILM	0.1uF	5%	50V	
C7	1-137-372-11	FILM	0.022uF	5%	50V	
C8	1-164-222-11	CERAMIC CHIP	0.22uF		25V	
C9	1-126-301-11	ELECT	1uF	20%	50V	
C10	1-137-442-11	FILM	0.039uF	5%	50V	
C11	1-163-007-11	CERAMIC CHIP	680PF	10%	50V	
C12	1-164-717-11	CERAMIC CHIP	0.0082uF	5%	50V	
C13	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C14	1-124-465-00	ELECT	0.47uF	20%	50V	
C15	1-164-222-11	CERAMIC CHIP	0.22uF		25V	
C16	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C17	1-124-465-00	ELECT	0.47uF	20%	50V	
C18	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C19	1-164-222-11	CERAMIC CHIP	0.22uF		25V	
C20	1-163-035-00	CERAMIC CHIP	0.047uF		50V	
C21	1-164-717-11	CERAMIC CHIP	0.0082uF	5%	50V	
C22	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	
C23	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C24	1-137-442-11	FILM	0.039uF	5%	50V	
C25	1-136-165-00	FILM	0.1uF	5%	50V	
C26	1-137-372-11	FILM	0.022uF	5%	50V	
		< CONNECTOR >				
CN1	1-695-092-11	SOCKET, CONNECTOR 7P				
		< IC >				
IC1	8-752-077-95	IC CXA1917AM-T6				

Ref. No.	Part No.	Description				Remark
		< CHIP CONDUCTOR >				
J1	1-216-296-00	CONDUCTOR, CHIP (3216)				
J2	1-216-296-00	CONDUCTOR, CHIP (3216)				
J3	1-216-296-00	CONDUCTOR, CHIP (3216)				
		< RESISTOR >				
R1	1-216-685-11	METAL CHIP	27K	0.5%	1/10W	
R2	1-208-811-11	METAL CHIP	16K	2%	1/10W	
R3	1-208-791-11	METAL CHIP	2.4K	2%	1/10W	
R4	1-208-799-11	METAL CHIP	5.1K	2%	1/10W	
R5	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R6	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R7	1-216-615-11	METAL CHIP	33	0.5%	1/10W	
R8	1-208-462-41	METAL CHIP	10K	2%	1/10W	
R9	1-208-812-11	METAL CHIP	18K	2%	1/10W	
R10	1-216-615-11	METAL CHIP	33	0.5%	1/10W	
R11	1-216-619-11	METAL CHIP	47	0.5%	1/10W	
R12	1-216-684-11	METAL CHIP	24K	0.5%	1/10W	
R13	1-216-615-11	METAL CHIP	33	0.5%	1/10W	
R14	1-216-619-11	METAL CHIP	47	0.5%	1/10W	
R15	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W	
R16	1-216-678-11	METAL CHIP	13K	0.5%	1/10W	
R17	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W	
R18	1-208-462-41	METAL CHIP	10K	2%	1/10W	
R19	1-208-462-41	METAL CHIP	10K	2%	1/10W	
R20	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
**********						
*	A-2007-539-A	MAIN BOARD, COMPLETE (US, CND)				
*	A-2007-535-A	MAIN BOARD, COMPLETE (AEP, UK, G, SP)				
*	A-2007-537-A	MAIN BOARD, COMPLETE (E, AUS)				
		**********				
		HP JACK, BOARD				
		**********				
*	1-537-770-11	TERMINAL BOARD, GROUND				
*	3-923-762-11	HOLDER (TR)				
	7-682-548-04	SCREW +BVTT 3X8 (S)				
*	3-356-925-01	HEAT SINK				

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C101	1-126-965-11	ELECT	22uF	20%	50V (US, CND, E, AUS)
C101	1-126-049-11	ELECT	22uF	20%	50V (AEP, UK, G, SP)
C102	1-136-495-11	FILM	0.068uF	5%	50V
C103	1-136-165-00	FILM	0.1uF	5%	50V
C104	1-126-964-11	ELECT	10uF	20%	50V (US, CND, E, AUS)
C104	1-124-721-71	ELECT	10uF	20%	50V (AEP, UK, G, SP)
C105	1-163-014-00	CERAMIC CHIP	0.0027uF	5%	50V
C106	1-126-963-11	ELECT	4.7uF	20%	50V (US, CND, E, AUS)
C106	1-124-720-11	ELECT	4.7uF	20%	50V (AEP, UK, G, SP)
C111	1-126-965-11	ELECT	22uF	20%	50V (US, CND, E, AUS)
C111	1-126-049-11	ELECT	22uF	20%	50V (AEP, UK, G, SP)
C112	1-136-173-00	FILM	0.47uF	5%	50V
C113	1-126-964-11	ELECT	10uF	20%	50V
C114	1-137-366-11	FILM	0.0022uF	5%	50V
C118	1-124-902-00	ELECT	0.47uF	20%	100V (US, CND, E, AUS)
C118	1-126-043-11	ELECT	0.47uF	20%	50V (AEP, UK, G, SP)
C121	1-107-597-11	CERAMIC	22PF	5%	500V
C122	1-137-428-11	FILM	180PF	5%	50V
C123	1-137-431-11	FILM	560PF	5%	50V
C124	1-101-810-00	CERAMIC	100PF	5%	500V
C125	1-136-803-11	FILM	560PF	5%	630V
C126	1-136-161-00	FILM	0.047uF	5%	50V
C127	1-136-157-00	FILM	0.022uF	5%	50V
C128	1-136-153-00	FILM	0.01uF	5%	50V
C141	1-124-925-11	ELECT	2.2uF	20%	50V (US, CND, E, AUS)
C141	1-124-720-11	ELECT	4.7uF	20%	50V (AEP, UK, G, SP)
C142	1-136-165-00	FILM	0.1uF	5%	50V
C143	1-136-495-11	FILM	0.068uF	5%	50V
C151	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C152	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C153	1-104-665-11	ELECT	100uF	20%	25V
C154	1-126-968-11	ELECT	100uF	20%	50V (US, CND, E, AUS)
C154	1-126-052-11	ELECT	100uF	20%	50V (AEP, UK, G, SP)
C155	1-136-157-00	FILM	0.022uF	5%	50V
C156	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C157	1-126-964-11	ELECT	10uF	20%	50V (US, CND, E, AUS)
C157	1-124-721-71	ELECT	10uF	20%	50V (AEP, UK, G, SP)
C158	1-136-158-00	FILM	0.027uF	5%	50V
C159	1-102-518-11	CERAMIC	33PF	5%	50V
C160	1-137-434-11	FILM	0.0018uF	5%	50V
C161	1-137-434-11	FILM	0.0018uF	5%	50V
C181	1-124-925-11	ELECT	2.2uF	20%	100V
C191	1-126-963-11	ELECT	4.7uF	20%	50V (US, CND, E, AUS)
C191	1-124-721-71	ELECT	10uF	20%	50V (AEP, UK, G, SP)
C201	1-126-965-11	ELECT	22uF	20%	50V (US, CND, E, AUS)
C201	1-126-049-11	ELECT	22uF	20%	50V (AEP, UK, G, SP)
C202	1-136-495-11	FILM	0.068uF	5%	50V
C203	1-136-165-00	FILM	0.1uF	5%	50V
C204	1-126-964-11	ELECT	10uF	20%	50V (US, CND, E, AUS)
C204	1-124-721-71	ELECT	10uF	20%	50V (AEP, UK, G, SP)
C205	1-163-014-00	CERAMIC CHIP	0.0027uF	5%	50V
C206	1-126-963-11	ELECT	4.7uF	20%	50V (US, CND, E, AUS)
C206	1-124-720-11	ELECT	4.7uF	20%	50V (AEP, UK, G, SP)
C211	1-126-965-11	ELECT	22uF	20%	50V (US, CND, E, AUS)
C211	1-126-049-11	ELECT	22uF	20%	50V (AEP, UK, G, SP)
C212	1-136-173-00	FILM	0.47uF	5%	50V
C213	1-126-964-11	ELECT	10uF	20%	50V
C214	1-137-366-11	FILM	0.0022uF	5%	50V
C218	1-124-902-00	ELECT	0.47uF	20%	100V (US, CND, E, AUS)
C218	1-126-045-11	ELECT	2.2uF	20%	50V (AEP, UK, G, SP)
C221	1-107-597-11	CERAMIC	22PF	5%	500V
C222	1-137-428-11	FILM	180PF	5%	50V
C223	1-137-431-11	FILM	560PF	5%	50V
C224	1-101-810-00	CERAMIC	100PF	5%	500V
C225	1-136-803-11	FILM	560PF	5%	630V
C226	1-136-161-00	FILM	0.047uF	5%	50V
C227	1-136-157-00	FILM	0.022uF	5%	50V
C228	1-136-153-00	FILM	0.01uF	5%	50V
C241	1-124-925-11	ELECT	2.2uF	20%	50V (US, CND, E, AUS)
C241	1-124-720-11	ELECT	4.7uF	20%	50V (AEP, UK, G, SP)

Ref. No.	Part No.	Description			Remark
C242	1-136-165-00	FILM	0.1uF	5%	50V
C243	1-136-495-11	FILM	0.068uF	5%	50V
C251	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C252	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C253	1-104-665-11	ELECT	100uF	20%	25V
C254	1-126-968-11	ELECT	100uF	20%	50V (US, CND, E, AUS)
C254	1-126-052-11	ELECT	100uF	20%	50V (AEP, UK, G, SP)
C255	1-136-157-00	FILM	0.022uF	5%	50V
C256	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C257	1-126-964-11	ELECT	10uF	20%	50V (US, CND, E, AUS)
C257	1-124-721-71	ELECT	10uF	20%	50V (AEP, UK, G, SP)
C258	1-136-158-00	FILM	0.027uF	5%	50V
C259	1-102-518-11	CERAMIC	33PF	5%	50V
C260	1-137-434-11	FILM	0.0018uF	5%	50V
C261	1-137-434-11	FILM	0.0018uF	5%	50V
C271	1-126-964-11	ELECT	10uF	20%	50V
C272	1-124-925-11	ELECT	2.2uF	20%	100V
C281	1-124-925-11	ELECT	2.2uF	20%	100V
C291	1-126-963-11	ELECT	4.7uF	20%	50V (US, CND, E, AUS)
C291	1-124-721-71	ELECT	10uF	20%	50V (AEP, UK, G, SP)
C301	1-126-965-11	ELECT	22uF	20%	50V (US, CND, E, AUS)
C301	1-126-049-11	ELECT	22uF	20%	50V (AEP, UK, G, SP)
C302	1-126-965-11	ELECT	22uF	20%	50V (US, CND, E, AUS)
C302	1-126-049-11	ELECT	22uF	20%	50V (AEP, UK, G, SP)
C303	1-124-903-11	ELECT	1uF	20%	50V
C311	1-124-903-11	ELECT	1uF	20%	50V
C319	1-126-964-11	ELECT	10uF	20%	50V
C321	1-126-967-11	ELECT	47uF	20%	35V
C322	1-126-967-11	ELECT	47uF	20%	35V
C323	1-107-584-11	CERAMIC	4PF	0.25PF	500V
C324	1-136-558-11	FILM	0.0039uF	5%	630V
C325	1-126-965-11	ELECT	22uF	20%	50V
C326	1-106-359-00	MYLAR	4700PF	5%	200V
C327	1-106-349-00	MYLAR	0.0018uF	5%	100V
C328	1-106-349-00	MYLAR	0.0018uF	5%	100V
C343	1-124-925-11	ELECT	2.2uF	20%	100V
C351	1-126-965-11	ELECT	22uF	20%	50V (US, CND, E, AUS)
C351	1-126-049-11	ELECT	22uF	20%	50V (AEP, UK, G, SP)
C352	1-126-965-11	ELECT	22uF	20%	50V (US, CND, E, AUS)
C352	1-126-049-11	ELECT	22uF	20%	50V (AEP, UK, G, SP)
C371	1-130-494-11	MYLAR	0.082uF	5%	50V
C372	1-137-436-11	FILM	0.0039uF	5%	50V
C386	1-126-923-11	ELECT	220uF	20%	10V
C387	1-126-923-11	ELECT	220uF	20%	10V
C421	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C422	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C423	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C424	1-124-925-11	ELECT	2.2uF	20%	100V
C431	1-126-916-11	ELECT	1000uF	20%	6.3V
C701	1-126-768-11	ELECT	2200uF	20%	16V (US, CND, E, AUS)
C701	1-124-556-11	ELECT	2200uF	20%	16V (AEP, UK, G, SP)
C702	1-126-936-11	ELECT	3300uF	20%	16V (US, CND, E, AUS)
C702	1-126-015-11	ELECT	3300uF	20%	16V (AEP, UK, G, SP)
C703	1-104-664-11	ELECT	47uF	20%	25V (US, CND, E, AUS)
C703	1-124-910-11	ELECT	47uF	20%	50V (AEP, UK, G, SP)
C704	1-126-027-11	ELECT	1000uF	20%	25V
C705	1-126-027-11	ELECT	1000uF	20%	25V
C706	1-126-968-11	ELECT	100uF	20%	50V
C707	1-126-964-11	ELECT	10uF	20%	50V
C708	1-126-937-11	ELECT	4700uF	20%	16V
C709	1-126-964-11	ELECT	10uF	20%	50V
C710	1-126-963-11	ELECT	4.7uF	20%	50V
C711	1-126-967-11	ELECT	47uF	20%	35V
C712	1-126-927-11	ELECT	2200uF	20%	10V
C713	1-126-946-11	ELECT	6800uF	20%	25V
C715	1-126-964-11	ELECT	10uF	20%	50V
C716	1-126-768-11	ELECT	2200uF	20%	16V
C805	1-136-165-00	FILM	0.1uF	5%	50V
C806	1-136-165-00	FILM	0.1uF	5%	50V
C807	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C808	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C809	1-124-902-00	ELECT	0.47uF	20%	50V
C810	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C811	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C813	1-124-902-00	ELECT	0.47uF	20%	50V
C830	1-136-165-00	FILM	0.1uF	5%	50V
C831	1-126-933-11	ELECT	100uF	20%	10V
C901	1-165-319-11	CERAMIC CHIP	0.1uF		50V

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
CN321	1-506-468-11	PIN, CONNECTOR 3P	
CN701	1-766-272-11	PIN, CONNECTOR (PC BOARD) 10P	
CN801	1-568-825-11	CONNECTOR, FFC/FPC 6P	
* CN804	1-568-954-11	PIN, CONNECTOR 5P (US, CND, E, AUS)	
CN805	1-778-065-11	SOCKET, CONNECTOR 39P	
CNP311	1-764-328-11	PIN, CONNECTOR (PCB)(V TYPE)5P	
* CNP321	1-560-062-00	PIN, CONNECTOR 4P	
* CNP322	1-560-060-00	PIN, CONNECTOR 2P	
* CNP351	1-560-062-00	PIN, CONNECTOR 4P	
* CNP376	1-568-954-11	PIN, CONNECTOR 5P	
* CNP398	1-691-462-11	PIN, CONNECTOR (PC BOARD) 6P	
CP101	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
CP141	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
CP201	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
CP241	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
		< DIODE >	
D151	8-719-019-12	DIODE ZSML-5.6X-T1	
D181	8-719-988-62	DIODE 1SS355	
D182	8-719-988-62	DIODE 1SS355	
D183	8-719-019-12	DIODE ZSML-5.6X-T1	
D251	8-719-019-12	DIODE ZSML-5.6X-T1	
D281	8-719-988-62	DIODE 1SS355	
D282	8-719-988-62	DIODE 1SS355	
D283	8-719-019-12	DIODE ZSML-5.6X-T1	
D301	8-719-988-62	DIODE 1SS355	
D311	8-719-988-62	DIODE 1SS355	
D312	8-719-988-62	DIODE 1SS355	
D313	8-719-988-62	DIODE 1SS355	
D314	8-719-988-62	DIODE 1SS355	
D315	8-719-988-62	DIODE 1SS355	
D321	8-719-988-62	DIODE 1SS355	
D322	8-719-988-62	DIODE 1SS355	
D341	8-719-988-62	DIODE 1SS355	
D342	8-719-988-62	DIODE 1SS355	
D371	8-719-988-62	DIODE 1SS355	
D372	8-719-988-62	DIODE 1SS355	
D373	8-719-988-62	DIODE 1SS355	
D431	8-719-988-62	DIODE 1SS355	
D701	8-719-200-02	DIODE 10E2	
D702	8-719-200-02	DIODE 10E2	
D703	8-719-200-02	DIODE 10E2	
D704	8-719-200-02	DIODE 10E2	
D705	8-719-200-02	DIODE 10E2	
D706	8-719-988-62	DIODE 1SS355	(US, CND, E, AUS)
D707	8-719-988-62	DIODE 1SS355	
D708	8-719-988-62	DIODE 1SS355	(US, CND, E, AUS)
D709	8-719-019-12	DIODE ZSML-5.6X-T1	
D710	8-719-019-12	DIODE ZSML-5.6X-T1	
D711	8-719-019-12	DIODE ZSML-5.6X-T1	
D712	8-719-200-02	DIODE 10E2	
D715	8-719-988-62	DIODE 1SS355 (US, CND, E, AUS)	
D716	8-719-019-46	DIODE ZSML-12Z-T1	
D717	8-719-988-62	DIODE 1SS355	
D718	8-719-019-25	DIODE ZSML-7.5Y-T1	
D719	8-719-019-18	DIODE ZSML-6.2Z-T1	
D720	8-719-988-62	DIODE 1SS355 (US, CND, E, AUS)	
D721	8-719-988-62	DIODE 1SS355	
D722	8-719-025-03	DIODE RBA-402-SL	
D723	8-719-019-12	DIODE ZSML-5.6X-T1	
D724	8-719-988-62	DIODE 1SS355	
D801	8-719-988-62	DIODE 1SS355	
D802	8-719-988-62	DIODE 1SS355	
D803	8-719-988-62	DIODE 1SS355	
D804	8-719-988-62	DIODE 1SS355	
		< IC >	
IC301	8-752-066-36	IC CXA1563M	
IC304	8-759-106-56	IC uPC1297CA	
IC311	8-752-070-68	IC CXA1598M	
IC341	8-752-066-36	IC CXA1563M	
IC351	8-759-636-55	IC M5218AFP	
IC371	8-759-100-96	IC uPC4558G2	
IC372	8-759-100-96	IC uPC4558G2	
IC381	8-759-100-96	IC uPC4558G2	
IC385	8-759-100-96	IC uPC4558G2	
IC391	8-759-300-71	IC HD14053BFP	
IC395	8-759-636-55	IC M5218AFP	
IC421	8-759-100-96	IC uPC4558G2	
IC701	8-759-100-96	IC uPC4558G2	
IC801	8-759-422-06	IC M38172M4-171FP	
IC802	8-759-822-09	IC LB1641	
IC803	8-759-973-95	IC BA6219B	
IC804	8-759-165-82	IC PST600E-T	
		< JACK >	
J385	1-568-519-41	JACK, LARGE TYPE (PHONES)	
		< COIL >	
L121	1-410-780-11	INDUCTOR 27mH	
L122	1-410-778-11	INDUCTOR 18mH	
L221	1-410-780-11	INDUCTOR 27mH	
L222	1-410-778-11	INDUCTOR 18mH	

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Ref. No.	Part No.	Description	Remark
		< LOW-PASS FILTER >	
LPF101	1-236-147-11	FILTER, LOW-PASS	
LPF201	1-236-147-11	FILTER, LOW-PASS	
		< JACK >	
PJ395	1-770-614-12	JACK, PIN 4P (LINE IN/OUT)	
		< TRANSISTOR >	
Q101	8-729-421-22	TRANSISTOR UN2211	
Q111	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q112	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q151	8-729-217-03	TRANSISTOR 2SK170	
Q152	8-729-217-03	TRANSISTOR 2SK170	
Q153	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q154	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q191	8-729-922-37	TRANSISTOR 2SD2144S	
Q201	8-729-421-22	TRANSISTOR UN2211	
Q211	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q212	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q251	8-729-217-03	TRANSISTOR 2SK170	
Q252	8-729-217-03	TRANSISTOR 2SK170	
Q253	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q254	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q291	8-729-922-37	TRANSISTOR 2SD2144S	
Q311	8-729-421-19	TRANSISTOR UN2213	
Q312	8-729-421-19	TRANSISTOR UN2213	
Q313	8-729-421-19	TRANSISTOR UN2213	
Q314	8-729-421-19	TRANSISTOR UN2213	
Q321	8-729-421-19	TRANSISTOR UN2213	
Q322	8-729-216-22	TRANSISTOR 2SA1162-G	
Q323	8-729-421-19	TRANSISTOR UN2213	
Q324	8-729-421-19	TRANSISTOR UN2213	
Q325	8-729-421-19	TRANSISTOR UN2213	
Q326	8-729-194-57	TRANSISTOR 2SC945-P	
Q327	8-729-194-57	TRANSISTOR 2SC945-P	
Q341	8-729-421-19	TRANSISTOR UN2213	
Q351	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q352	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q371	8-729-107-43	TRANSISTOR 2SC3624-L18	
Q372	8-729-107-43	TRANSISTOR 2SC3624-L18	
Q373	8-729-107-43	TRANSISTOR 2SC3624-L18	
Q391	8-729-421-19	TRANSISTOR UN2213	
Q431	8-729-216-22	TRANSISTOR 2SA1162-G	
Q432	8-729-901-06	TRANSISTOR DTA144EK	
Q433	8-729-421-19	TRANSISTOR UN2213	
Q702	8-729-900-80	TRANSISTOR DTC114ES (US, CND, E, AUS)	
Q703	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q704	8-729-209-15	TRANSISTOR 2SD2012	
Q705	8-729-209-15	TRANSISTOR 2SD2012	
Q706	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q707	8-729-900-80	TRANSISTOR DTC114ES(US, CND, E, AUS)	
Q708	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q709	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q710	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q711	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q712	8-729-224-63	TRANSISTOR 2SK246-BL	
Q722	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q802	8-729-421-19	TRANSISTOR UN2213	
Q803	8-729-901-06	TRANSISTOR DTA144EK	
Q804	8-729-901-06	TRANSISTOR DTA144EK	
Q805	8-729-421-19	TRANSISTOR UN2213	
Q806	8-729-421-22	TRANSISTOR UN2211	
Q807	8-729-421-22	TRANSISTOR UN2211	
Q808	8-729-421-22	TRANSISTOR UN2211	
Q809	8-729-421-22	TRANSISTOR UN2211	
Q810	8-729-801-84	TRANSISTOR 2SB1013-4	
Q811	8-729-421-22	TRANSISTOR UN2211	
Q812	8-729-216-22	TRANSISTOR 2SA1162-G	
		< RESISTOR >	
R101	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R102	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R103	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R104	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R105	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R111	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R112	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R113	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R114	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R116	1-216-058-00	METAL CHIP 2.4K 5% 1/10W	
R116	1-216-058-00	METAL CHIP 2.4K 5% 1/10W	
R117	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R118	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R121	1-216-058-00	METAL CHIP 2.4K 5% 1/10W	
R122	1-216-101-00	METAL CHIP 150K 5% 1/10W	
⚠R123	1-219-153-11	FUSIBLE 10 5% 1/4W F	
R124	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R125	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R141	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R151	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R152	1-216-029-00	METAL CHIP 150 5% 1/10W	
R153	1-216-041-00	METAL CHIP 470 5% 1/10W	
R154	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
R155	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
R156	1-216-046-00	METAL CHIP 750 5% 1/10W	
R157	1-216-046-00	METAL CHIP 750 5% 1/10W	
R158	1-216-025-00	METAL CHIP 100 5% 1/10W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

Ref. No.	Part No.	Description			Remark
R159	1-216-021-00	METAL CHIP	68	5%	1/10W
R160	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R161	1-216-081-00	METAL CHIP	22K	5%	1/10W
R162	1-216-100-00	METAL CHIP	130K	5%	1/10W
R163	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R164	1-216-073-00	METAL CHIP	10K	5%	1/10W
R165	1-216-056-00	METAL CHIP	2K	5%	1/10W
R166	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R181	1-216-083-00	METAL CHIP	27K	5%	1/10W
R182	1-216-035-00	METAL CHIP	270	5%	1/10W
R183	1-216-092-00	METAL CHIP	62K	5%	1/10W
R185	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R186	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R187	1-216-033-00	METAL CHIP	220	5%	1/10W
R188	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R191	1-216-097-00	METAL CHIP	100K	5%	1/10W
R192	1-216-082-00	METAL CHIP	24K	5%	1/10W
R193	1-216-073-00	METAL CHIP	10K	5%	1/10W
R194	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R195	1-216-079-00	METAL CHIP	18K	5%	1/10W
R196	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R197	1-216-049-00	METAL CHIP	1K	5%	1/10W
R198	1-216-081-00	METAL CHIP	22K	5%	1/10W
R201	1-216-097-00	METAL CHIP	100K	5%	1/10W
R202	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R203	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R204	1-216-105-00	METAL CHIP	220K	5%	1/10W
R205	1-216-049-00	METAL CHIP	1K	5%	1/10W
R211	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R212	1-216-073-00	METAL CHIP	10K	5%	1/10W
R213	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R214	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R216	1-216-058-00	METAL CHIP	2.4K	5%	1/10W
R217	1-216-073-00	METAL CHIP	10K	5%	1/10W
R218	1-216-089-00	METAL CHIP	47K	5%	1/10W
R221	1-216-058-00	METAL CHIP	2.4K	5%	1/10W
R222	1-216-101-00	METAL CHIP	150K	5%	1/10W
⚠R223	1-219-153-11	FUSIBLE	10	5%	1/4W F
R224	1-216-085-00	METAL CHIP	33K	5%	1/10W
R225	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R241	1-216-097-00	METAL CHIP	100K	5%	1/10W
R251	1-216-097-00	METAL CHIP	100K	5%	1/10W
R252	1-216-029-00	METAL CHIP	150	5%	1/10W
R253	1-216-041-00	METAL CHIP	470	5%	1/10W
R254	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R255	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R256	1-216-046-00	METAL CHIP	750	5%	1/10W
R257	1-216-046-00	METAL CHIP	750	5%	1/10W

Ref. No.	Part No.	Description			Remark
R258	1-216-025-00	METAL CHIP	100	5%	1/10W
R259	1-216-021-00	METAL CHIP	68	5%	1/10W
R260	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R261	1-216-081-00	METAL CHIP	22K	5%	1/10W
R262	1-216-100-00	METAL CHIP	130K	5%	1/10W
R263	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R264	1-216-073-00	METAL CHIP	10K	5%	1/10W
R265	1-216-056-00	METAL CHIP	2K	5%	1/10W
R266	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R271	1-216-089-00	METAL CHIP	47K	5%	1/10W
R272	1-216-083-00	METAL CHIP	27K	5%	1/10W
R273	1-216-088-00	METAL CHIP	43K	5%	1/10W
R274	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R281	1-216-083-00	METAL CHIP	27K	5%	1/10W
R282	1-216-035-00	METAL CHIP	270	5%	1/10W
R283	1-216-092-00	METAL CHIP	62K	5%	1/10W
R285	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R286	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R287	1-216-033-00	METAL CHIP	220	5%	1/10W
R288	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R291	1-216-097-00	METAL CHIP	100K	5%	1/10W
R292	1-216-082-00	METAL CHIP	24K	5%	1/10W
R293	1-216-073-00	METAL CHIP	10K	5%	1/10W
R294	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R295	1-216-079-00	METAL CHIP	18K	5%	1/10W
R296	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R297	1-216-049-00	METAL CHIP	1K	5%	1/10W
R298	1-216-081-00	METAL CHIP	22K	5%	1/10W
R301	1-208-813-11	METAL CHIP	20K	2%	1/10W
R302	1-216-081-00	METAL CHIP	22K	5%	1/10W
R303	1-216-049-00	METAL CHIP	1K	5%	1/10W
R311	1-216-685-11	METAL CHIP	27K	2%	1/10W
R312	1-216-081-00	METAL CHIP	22K	5%	1/10W
R313	1-216-049-00	METAL CHIP	1K	5%	1/10W
R316	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R317	1-216-097-00	METAL CHIP	100K	5%	1/10W
R321	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R322	1-216-049-00	METAL CHIP	1K	5%	1/10W
R323	1-216-040-00	METAL CHIP	470	5%	1/10W
R324	1-216-050-00	METAL CHIP	1.1K	5%	1/10W
R325	1-216-080-00	METAL CHIP	20K	5%	1/10W
R328	1-216-049-00	METAL CHIP	1K	5%	1/10W
R329	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R330	1-249-390-11	CARBON	5.6	5%	1/4W
R331	1-249-390-11	CARBON	5.6	5%	1/4W
R332	1-249-440-11	CARBON	82K	5%	1/4W
R333	1-249-440-11	CARBON	82K	5%	1/4W
R341	1-208-813-11	METAL CHIP	20K	2%	1/10W
R342	1-216-069-00	METAL CHIP	6.8K	5%	1/10W

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Ref. No.	Part No.	Description			Remark
R343	1-216-081-00	METAL CHIP	22K	5%	1/10W
R344	1-216-081-00	METAL CHIP	22K	5%	1/10W
R351	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R352	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R371	1-216-054-00	METAL CHIP	1.6K	5%	1/10W
R372	1-216-097-00	METAL CHIP	100K	5%	1/10W
R373	1-216-097-00	METAL CHIP	100K	5%	1/10W
R374	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R375	1-216-081-00	METAL CHIP	22K	5%	1/10W
R376	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R377	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R378	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R379	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R385	1-247-696-11	CARBON	47	5%	1/4W
R391	1-216-081-00	METAL CHIP	22K	5%	1/10W
R401	1-216-080-00	METAL CHIP	20K	5%	1/10W
R402	1-216-078-00	METAL CHIP	16K	5%	1/10W
R403	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R404	1-216-089-00	METAL CHIP	47K	5%	1/10W
R405	1-216-080-00	METAL CHIP	20K	5%	1/10W
R406	1-216-092-00	METAL CHIP	62K	5%	1/10W
R407	1-216-082-00	METAL CHIP	24K	5%	1/10W
R408	1-216-079-00	METAL CHIP	18K	5%	1/10W
R409	1-216-074-00	METAL CHIP	11K	5%	1/10W
R410	1-216-085-00	METAL CHIP	33K	5%	1/10W
R411	1-216-689-11	METAL CHIP	39K	5%	1/10W
R412	1-216-082-91	METAL CHIP	24K	5%	1/10W
R413	1-216-085-00	METAL CHIP	33K	5%	1/10W
R414	1-216-090-00	METAL CHIP	51K	5%	1/10W
R415	1-216-084-00	METAL CHIP	30K	5%	1/10W
R416	1-216-090-00	METAL CHIP	51K	5%	1/10W
R417	1-216-083-00	METAL CHIP	27K	5%	1/10W
R418	1-216-081-00	METAL CHIP	22K	5%	1/10W
R423	1-216-089-00	METAL CHIP	47K	5%	1/10W
R425	1-216-097-00	METAL CHIP	100K	5%	1/10W
R426	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R427	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R431	1-216-081-00	METAL CHIP	22K	5%	1/10W
R432	1-216-033-00	METAL CHIP	220	5%	1/10W
R701	1-249-417-11	CARBON	1K	5%	1/4W
R702	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R703	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R704	1-216-030-00	METAL CHIP	160	5%	1/10W
R705	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R706	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R707	1-216-073-00	METAL CHIP	10K	5%	1/10W
R708	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R709	1-216-069-00	METAL CHIP	6.8K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R710	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R711	1-216-049-00	METAL CHIP	1K	5%	1/10W
R712	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R713	1-249-417-11	CARBON	1K	5%	1/4W
R714	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R715	1-216-072-00	METAL CHIP	9.1K	5%	1/10W
R716	1-216-065-00	METAL CHIP	4.7K	5%	1/10W (US, CND, E, AUS)
R717	1-216-089-00	METAL CHIP	47K	5%	1/10W
R718	1-216-081-00	METAL CHIP	22K	5%	1/10W
⚠R719	1-219-135-11	FUSIBLE	0.15	10%	1/4W F
⚠R720	1-219-137-11	FUSIBLE	0.33	10%	1/4W F
R721	1-249-425-11	CARBON	4.7K	5%	1/4W
R722	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R723	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R724	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R725	1-216-065-00	METAL CHIP	4.7K	5%	1/10W (US, CND, E, AUS)
⚠R730	1-219-139-11	FUSIBLE	0.68	10%	1/4W F
⚠R731	1-219-139-11	FUSIBLE	0.68	10%	1/4W F
R801	1-216-081-00	METAL CHIP	22K	5%	1/10W
R802	1-216-081-00	METAL CHIP	22K	5%	1/10W
R803	1-216-097-00	METAL CHIP	100K	5%	1/10W
R804	1-216-049-00	METAL CHIP	1K	5%	1/10W
R806	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R807	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R808	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R809	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R810	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R811	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R812	1-216-049-00	METAL CHIP	1K	5%	1/10W
R813	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R814	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R815	1-216-045-00	METAL CHIP	680	5%	1/10W
R816	1-216-034-00	METAL CHIP	240	5%	1/10W
⚠R817	1-212-954-11	FUSIBLE	6.8	5%	1/2W F
R818	1-216-049-00	METAL CHIP	1K	5%	1/10W
R819	1-216-052-00	METAL CHIP	1.3K	5%	1/10W
R820	1-216-050-00	METAL CHIP	1.1K	5%	1/10W
⚠R821	1-212-952-00	FUSIBLE	5.6	5%	1/2W F
R822	1-216-097-00	METAL CHIP	100K	5%	1/10W
R823	1-216-073-00	METAL CHIP	10K	5%	1/10W
R824	1-216-049-00	METAL CHIP	1K	5%	1/10W
R825	1-216-089-00	METAL CHIP	47K	5%	1/10W
R831	1-216-073-00	METAL CHIP	10K	5%	1/10W
R832	1-216-073-00	METAL CHIP	10K	5%	1/10W
R834	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R835	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R845	1-216-073-00	METAL CHIP	10K	5%	1/10W

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Ref. No.	Part No.	Description			Remark
R846	1-216-073-00	METAL CHIP	10K	5%	1/10W
R847	1-216-073-00	METAL CHIP	10K	5%	1/10W
R848	1-216-073-00	METAL CHIP	10K	5%	1/10W
R849	1-216-073-00	METAL CHIP	10K	5%	1/10W
R850	1-216-073-00	METAL CHIP	10K	5%	1/10W
R851	1-216-073-00	METAL CHIP	10K	5%	1/10W
		< VARIABLE RESISTOR >			
RV111	1-238-019-11	RES, ADJ, CARBON 47K			
RV112	1-241-765-11	RES, ADJ, CARBON 22K			
RV121	1-241-765-11	RES, ADJ, CARBON 22K			
RV151	1-241-759-21	RES, ADJ, CARBON 220			
RV211	1-238-019-11	RES, ADJ, CARBON 47K			
RV212	1-241-765-11	RES, ADJ, CARBON 22K			
RV221	1-241-765-11	RES, ADJ, CARBON 22K			
RV251	1-241-759-21	RES, ADJ, CARBON 220			
RV312	1-241-763-11	RES, ADJ, CARBON 4.7K			
		< TRANSFORMER >			
T121	1-433-344-11	TRANSFORMER, BIAS OSCILLATION			
T221	1-433-344-11	TRANSFORMER, BIAS OSCILLATION			
T321	1-423-614-11	TRANSFORMER, BIAS OSCILLATION			
		< CONNECTOR >			
* TP321	1-564-506-11	PLUG, CONNECTOR 3P			
* TP802	1-560-060-00	PIN, CONNECTOR 2P			
		< VIBRATOR >			
X801	1-577-358-21	VIBRATOR, CERAMIC (4MHZ)			
**********					
*	1-632-740-11	MD BOARD *********			
	3-356-631-01	HOLDER (SENSOR)			
		< CONNECTOR >			
CN1001	1-506-615-11	PIN, CONNECTOR 9P			
CN1002	1-564-501-11	PIN, CONNECTOR 8P			
		< IC >			
IC1001	8-749-920-97	IC PHOTO REFLECTOR GP2S22B			
IC1002	8-749-920-97	IC PHOTO REFLECTOR GP2S22B			
		< RESISTOR >			
R1001	1-247-810-11	CARBON	130	5%	1/4W
R1002	1-247-810-11	CARBON	130	5%	1/4W

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S1001	1-466-238-11	ENCODER, ROTARY			
S1002	1-570-953-11	SWITCH, PUSH (1 KEY) (DOOR)			
S1003	1-572-126-11	SWITCH, PUSH (1 KEY) (CLOSE)			
S1004	1-571-958-11	SWITCH, PUSH (1 KEY) (OPEN)			
S1005	1-572-125-11	SWITCH, LEAF (ERASE PROOF)			
S1006	1-572-202-11	SWITCH, LEAF (HALF)			
S1007	1-572-125-11	SWITCH, LEAF (METAL)			
S1008	1-572-125-11	SWITCH, LEAF (70μS)			
		< TERMINAL >			
* TB1001	1-694-018-11	TERMINAL (5P)			
**********					
*	A-2007-538-A	PANEL BOARD, COMPLETE (US, CND, AUS)			
*	A-2007-540-A	PANEL BOARD, COMPLETE (AEP, UK, G, SP)			
*	A-2007-536-A	PANEL BOARD, COMPLETE (E) **********			
		DISPLAY BOARD **********			
		EJECT BOARD **********			
		POWER SW BOARD **********			
		PRIMARY BOARD (EXCEPT E) **********			
		SECONDARY BOARD **********			
*	3-386-245-11	HOLDER (FL)			
		< CAPACITOR >			
⚠C717	1-113-925-11	ELECT	0.01uF	20%	250V (AEP, UK, G, SP)
C720	1-136-165-00	FILM	0.1uF	5%	50V (E)
C721	1-136-165-00	FILM	0.1uF	5%	50V (E)
C722	1-136-165-00	FILM	0.1uF	5%	50V (E)
C723	1-136-165-00	FILM	0.1uF	5%	50V (E)
C724	1-164-159-11	CERAMIC	0.1uF		50V (E)
C725	1-136-165-00	FILM	0.1uF	5%	50V (US, CND, AEP, UK, G, SP, AUS)
C726	1-136-165-00	FILM	0.1uF	5%	50V (US, CND, AEP, UK, G, SP, AUS)

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PANEL **DISPLAY**

EJECT **POWER SW** **PRIMARY** **SECONDARY**

Ref. No.	Part No.	Description				Remark
C727	1-136-165-00	FILM	0.1uF	5%	50V	(US, CND, AEP, UK, G, SP, AUS)
C728	1-136-165-00	FILM	0.1uF	5%	50V	(US, CND, AEP, UK, G, SP, AUS)
C729	1-164-159-11	CERAMIC	0.1uF		50V	(US, CND, AEP, UK, G, SP, AUS)
		< CONNECTOR >				
* CN901	1-750-444-11	CONNECTOR, FFC/FPC 39P (AEP, UK, G, SP)				
CN901	1-778-065-11	SOCKET, CONNECTOR 39P (US, CND, E, AUS)				
CN902	1-568-825-11	CONNECTOR, FFC/FPC 6P				
* CNP702	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P				(US, CND, AEP, UK, G, SP, AUS)
CNP703	1-568-226-11	PIN, CONNECTOR 2P (AEP, UK, G, SP)				
		< DIODE >				
D901	8-719-987-63	DIODE 1N4148M				
D902	8-719-987-63	DIODE 1N4148M				
D903	8-719-987-63	DIODE 1N4148M				
		< IC >				
IC901	8-741-810-59	IC SBX1810-59				
		< TRANSISTOR >				
Q901	8-729-900-89	TRANSISTOR DTC144ES				
Q902	8-729-900-89	TRANSISTOR DTC144ES				
Q903	8-729-900-89	TRANSISTOR DTC144ES				
		< RESISTOR >				
R115	1-249-425-11	CARBON	4.7K	5%	1/4W	
R215	1-249-425-11	CARBON	4.7K	5%	1/4W	
R327	1-249-429-11	CARBON	10K	5%	1/4W	
R830	1-249-429-11	CARBON	10K	5%	1/4W	
R833	1-249-429-11	CARBON	10K	5%	1/4W	
R838	1-249-441-11	CARBON	100K	5%	1/4W	
R839	1-249-441-11	CARBON	100K	5%	1/4W	
R840	1-249-441-11	CARBON	100K	5%	1/4W	
R841	1-249-441-11	CARBON	100K	5%	1/4W	
R842	1-249-441-11	CARBON	100K	5%	1/4W	
R843	1-249-441-11	CARBON	100K	5%	1/4W	
R844	1-249-441-11	CARBON	100K	5%	1/4W	
R861	1-249-441-11	CARBON	100K	5%	1/4W	
R901	1-249-441-11	CARBON	100K	5%	1/4W	
R905	1-247-838-00	CARBON	2K	5%	1/4W	
R906	1-249-422-11	CARBON	2.7K	5%	1/4W	
R907	1-247-848-11	CARBON	5.1K	5%	1/4W	
R908	1-249-429-11	CARBON	10K	5%	1/4W	
R909	1-247-866-11	CARBON	30K	5%	1/4W	
R910	1-247-838-00	CARBON	2K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R911	1-249-422-11	CARBON	2.7K	5%	1/4W	
R912	1-247-848-11	CARBON	5.1K	5%	1/4W	
R915	1-249-429-11	CARBON	10K	5%	1/4W	
R916	1-247-866-11	CARBON	30K	5%	1/4W	
R917	1-247-836-11	CARBON	1.6K	5%	1/4W	
R918	1-247-840-00	CARBON	2.4K	5%	1/4W	
R919	1-249-423-11	CARBON	3.3K	5%	1/4W	
R920	1-249-426-11	CARBON	5.6K	5%	1/4W	
R921	1-247-858-11	CARBON	13K	5%	1/4W	
R922	1-247-868-11	CARBON	36K	5%	1/4W	
R923	1-247-807-31	CARBON	100	5%	1/4W	
		< VARIABLE RESISTOR >				
RV311	1-225-221-11	RES, VAR, CARBON 5K/5K (REC LEVEL)				
RV321	1-225-222-11	RES, VAR, CARBON 5K/5K (BIAS)				
RV395	1-225-219-11	RES, VAR, CARBON 50K/50K (BALANCE)				
RV396	1-225-220-11	RES, VAR, CARBON 50K/50K (REC LEVEL)				
		< SWITCH >				
S901	1-554-303-21	SWITCH, TACTILE (■)				
S902	1-554-303-21	SWITCH, TACTILE (◀◀)				
S903	1-554-303-21	SWITCH, TACTILE (▶▶)				
S904	1-554-303-21	SWITCH, TACTILE (● REC)				
S905	1-554-303-21	SWITCH, TACTILE (○ REC MUTE)				
S906	1-554-303-21	SWITCH, TACTILE (▷)				
S907	1-554-303-21	SWITCH, TACTILE (❚❚ PAUSE)				
S908	1-554-303-21	SWITCH, TACTILE (MEMORY)				
S909	1-554-303-21	SWITCH, TACTILE (RESET)				
S910	1-554-303-21	SWITCH, TACTILE (MONITOR)				
S911	1-554-303-21	SWITCH, TACTILE (CALIBRATION)				
S912	1-554-303-21	SWITCH, TACTILE (⏏ OPEN/CLOSE)				
S913	1-762-647-11	SWITCH, ROTARY (DOLBY NR)				
S915	1-762-580-11	SWITCH, PUSH (1 KEY) (POWER)				(US, CND, E, AUS)
⚠S922	1-762-581-11	SWITCH, AC POWER PUSH (1 KEY) (POWER)				(AEP, UK, G, SP)
		< TRANSFORMER >				
⚠T701	1-429-502-11	TRANSFORMER, POWER (US, CND)				
⚠T701	1-429-503-11	TRANSFORMER, POWER (AEP, UK, G, SP)				
⚠T701	1-426-613-11	TRANSFORMEE, POWER (E)				
⚠T701	1-429-656-11	TRANSFORMER, POWER (AUS)				
		< FLUORESCENT INDICATOR TUBE >				
VFD901	1-517-163-11	INDICATOR TUBE, FLUORESCENT				

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Ref. No.	Part No.	Description				Remark
*	1-632-741-21	REEL MOTOR BOARD				
		**********				
		< CAPACITOR >				
C1051	1-124-907-11	ELECT	10uF	20%	50V	
C1052	1-124-907-11	ELECT	10uF	20%	50V	
C1053	1-164-159-11	CERAMIC	0.1uF		50V	
		< CONNECTOR >				
* CN1051	1-568-945-11	PIN, CONNECTOR 7P				
* CN1052	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P				
* CN1053	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P				
		< DIODE >				
D1001	8-719-980-85	DIODE SLF-325C (ON THE FRONT PANEL)				
		< RESISTOR >				
R1051	1-247-825-31	CARBON	560	5%	1/4W	
**********						
		MISCELLANEOUS				
		**********				
⚠10	1-569-007-11	ADAPTER, CONVERSION 2P (E)				
63	1-777-110-11	WIRE (FLAT TYPE)(6 CORE)				
64	1-777-109-11	WIRE (FLAT TYPE)(39 CORE)				
⚠CNP901	1-551-188-99	CORD, POWER (E)				
⚠CNP901	1-558-945-21	CORD, POWER (POLAR.SPT-1)(US, CND)				
⚠CNP901	1-575-651-21	CORD, POWER (AEP, G, SP)				
⚠CNP901	1-696-586-11	CORD, POWER (UK)				
⚠CNP901	1-696-845-11	CORD, POWER (AUS)				
D1001	8-719-980-85	DIODE SLF-325C				
HE301	1-543-673-11	HEAD, MAGNETIC (ERASE)				
HRP301	1-543-733-11	HEAD, MAGNETIC(RECORD/PLAYBACK)				
M1001	X-3371-423-1	MOTOR (CAPSTAN V21M) ASSY				
M1051	X-3371-429-1	MOTOR (REEL RM) ASSY				
M1052	X-3371-428-1	MOTOR (ASSIST) ASSY				
S1001	1-466-238-11	ENCODER, ROTARY				
⚠S701	1-692-155-11	SELECTOR, POWER VOLTAGE (E)				
⚠T701	1-429-502-11	TRANSFORMER, POWER (US, CND)				
⚠T701	1-429-503-11	TRANSFORMER, POWER (AEP, UK, G, SP)				
⚠T701	1-429-613-11	TRANSFORMER, POWER (E)				
⚠T701	1-429-656-11	TRANSFORMER, POWER (AUS)				
**********						

Ref. No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-682-548-04	SCREW +BVTT 3X8 (S)	
#2	7-685-871-01	SCREW +BVTT 3X6 (S)	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-685-134-19	SCREW (+ PTPWH) (2.6X8)	
#5	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#6	7-621-255-20	SCREW +BVTT 2X4 (S)	
#7	7-621-772-20	SCREW +B 2X5	
#8	7-685-131-19	SCREW +BTP 2.6X4 TYPE2 N-S	
#9	7-621-255-35	SCREW +BVTT 2X5 (S)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-551-734-11	CORD, CONNECTION	
	3-856-296-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE)(CND, AEP)	
	3-856-296-21	MANUAL, INSTRUCTION (ENGLISH) (US, UK, AUS)	
	3-856-296-31	MANUAL, INSTRUCTION (GERMAN, DATCH, SWEDISH, ITALIAN)(AEP)	
	3-856-296-41	MANUAL, INSTRUCTION (GERMAN)(G)	
	3-856-296-51	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE)(E, SP)	
*	3-932-083-01	CUSHION (AEP, UK, E, SP, AUS)	
*	3-935-037-01	INDIVIDUAL CARTON (AEP, UK, G, SP)	
*	3-935-039-01	INDIVIDUAL CARTON (US, CND)	
*	3-935-041-01	INDIVIDUAL CARTON (E, AUS)	
*	3-936-086-01	CUSHION (US, CND)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

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